

WL-TR-94-4055
Volume 4, Chapter 8, 1 of 2

DAMAGE TOLERANT DESIGN HANDBOOK



**D.A. Skinn, J.P. Gallagher, A.P. Berens,
P.D. Huber, J. Smith**

**University of Dayton Research Institute
300 College Park Dr
Dayton, OH 45469-0120**

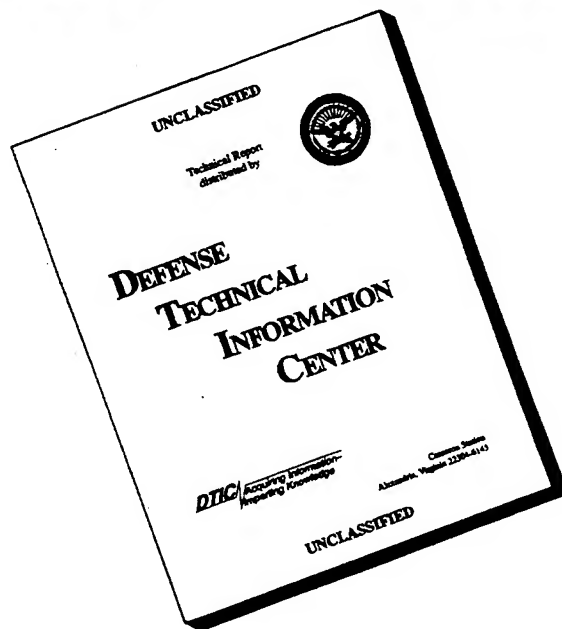
**May 1994
Final Report for Period June 1991 - May 1994**

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**Materials Directorate
Wright Laboratory
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1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE MAY 1994	3. REPORT TYPE AND DATES COVERED FINAL 06/19/91--05/19/94		
4. TITLE AND SUBTITLE DAMAGE TOLERANT DESIGN HANDBOOK VOL 4, CHAPTER 8, 1 OF 2		5. FUNDING NUMBERS C F33615-91-C-5610 PE 62102 PR 2418 TA 04 WU 91		
6. AUTHOR(S) D.A. SKINN, J.P. GALLAGHER, A.P. BERENS, P.D. HUBER, J. SMITH				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) UNIVERSITY OF DAYTON RESEARCH INSTITUTE 300 COLLEGE PARK DAYTON OH 45469-0120		8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) MATERIALS DIRECTORATE WRIGHT LABORATORY AIR FORCE MATERIEL COMMAND WRIGHT PATTERSON AFB OH 45433-7734		10. SPONSORING/MONITORING AGENCY REPORT NUMBER WL-TR-94-4055		
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words) This report presents a compilation of mechanical property data that are useful for damage tolerant design and analyses. The data of this handbook combines the old data that were previously presented in MCIC-HB-OIR (Damage Tolerant Design Handbook, December 1983) and more recent data that were collected from various sources. The fracture toughness, crack growth, R-curve, sustained load and threshold data are for alloy and stainless steels, nickel based super alloys, titanium alloys and aluminum alloys.				
14. SUBJECT TERMS MECHANICAL PROPERTIES FRACTURE TOUGHNESS SUBCRITICAL CRACK GROWTH R-CURVES SUSTAINED LOAD THRESHOLD			15. NUMBER OF PAGES 744	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UL	

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Foreword

This report summarizes the results of a damage tolerant, material property data collection and reporting program conducted under USAF Contract F33615-91-C-5610. The work was sponsored by the Materials Directorate of Wright Laboratory with Mr. Jack Coate of the Systems Support Division serving as the project monitor. The technical effort was conducted between June 1991 and January 1994. The work was performed by the University of Dayton Research Institute under the general supervision of Dr. Joseph P. Gallagher with Dr. Alan P. Berens serving as Principal Investigator.

This final report comprises eight chapters which are presented in five volumes as follows:

<u>VOLUME</u>	<u>CHAPTER</u>	<u>DESCRIPTION</u>
1	1	Handbook organization and content
	2	Methods of calculation
	3	Alloy Steels
	4	Stainless Steels
2	5	Nickel Based Super Alloys
	6	Titanium Alloys
3	7	Aluminum 2000/6000 Series Alloys
4 & 5	8	Aluminum 7000/8000 Series Alloys

A detailed listing of the materials represented in the Handbook is contained in the preceding Table of Contents. In the body of the Handbook, the pages are numbered within chapters and the relevant portion of the table of contents is repeated at the beginning of each chapter.

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TABLE 8.0.1

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{Ic}	K _c	R Curve	da/dN	da/dt	K _{Isec}
7001	T75	Sheet		24		2		
		Plate	12	24				
7005	T6	Sheet		8		4		
		Plate		4				
		Plate						1
		Plate						
7007	T6351	Plate	8	6				
		Plate						1
		Plate						1
		Plate						1
	T6 OVERHEATED WELD CENTER LINE	Plate						1
		Plate						1
		Plate						1
		Plate						1
7010	T73651	Plate	16			14		3
		Plate					1	
		Plate						
		Plate						
7039	T64	Plate						
		Plate						
		Plate						
		Plate						
	T73	Forging	136			12	1	1
		Extrusion	24					2
		Extruded Bar	25					
		Extrusion						
7049	T73 INTEGRALLY STIFFENED	Plate	8			9		2
		Extrusion						
		Extrusion				4		
		Extruded Bar	4					

TABLE 8.0.1 (CONTINUED)
AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{lc}	K _c	R Curve	da/dN	da/dt	K _{Isc}
7049 (Cont'd)	T73511-LOW PURITY	Extrusion				5		
		Extruded Bar	4					
		Extrusion				5		
	T73511-MEDIUM PURITY	Extruded Bar	4					
		Forging	8			8		13
7050	T76	Extruded Bar	23					
	T6	Sheet				6		
		Extrusion				1		
	T6-412972	Sheet				1		
	T73	Forging				1		
	T7351	Plate	90			17		
	T73511	Extrusion				37		
	T73511-HIGH PURITY	Extrusion				5		
		Extruded Bar	4					
		Extrusion				12		
	T7351X	Extrusion						
	T7352	Forging	6					
	T736	Forging	30			6		2
	T73651	Plate	276			54		4
		Extrusion				2		
	T73652	Forging	50			6		
	T74	Forging	5					
		Hand Forging				6		
	T7451	Plate				25		

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{1c}	K _c	R Curve	da/dN	da/dt	K _{Isec}
7050 (Cont'd)	T74511	Extrusion	12		14	27		
	T745111	Extrusion				1		
	T7452	Forging	7		22	27		
	T76	Sheet				12		
	T7651	Plate	10		40	27		7
	T76511	Plate	1			1		
		Extrusion	8		7	42		
	T7651X	Extrusion				7		
	T7E56	Forging	4					
	T76	Sheet		15		15		
7050 (ALCLAD)	Unspecified	Plate					5	
		Sheet		215		42		
		Plate		8		11		1
	T6	Forging	14	4				
		Extrusion	6	5				
		Forged Bar	2					
		Rolled Bar	4					
	Unspecified					9	1	
		Sheet		42				
	T651	Plate	202	78		71	25	7
7075		Extrusion	22					4
		Rolled Bar	9					

TABLE 8.0.1 (CONTINUED)
AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{fc}	K _c	R Curve	da/dN	da/dt	K _{Isec}
7075 (Cont'd)	T6510	Extrusion	33			5		
		Forged Bar	35					
		Extruded Bar				2		
	T6511	Forging				7		
		Extrusion	12		6	10		
	T6511 #6	Forging				1		
		Sheet		27				
	T73	Plate				3		
		Forging	20					1
		Forged Bar	4			17		
		Sheet		35				
	T7351	Plate	106	144		96	3	16
		Extrusion	32					
	T7351 E3.2	Plate				2		
		Extrusion	12			6		
	T73510	Extruded Bar				3		
		Extrusion	27			26		
	T73511	Extruded Bar						5
		Extrusion				4		
	T73511-HIGH PURITY	Extruded Bar	4					
		Extrusion				5		
	T73511-LOW PURITY	Extruded Bar	4					
		Extrusion						

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{IC}	K _C	R Curve	da/dN	da/dt	K _{Isc}
7075 (Cont'd)	T73511-MEDIUM PURITY	Extrusion				3		
		Extruded Bar	4					
	T7352	Plate				2		
		Forging	37			26		1
		Extrusion	7					
		Billet	1			2		
		Forging	7					
	T73652							
	T74	Hand Forging				1		
	T74511	Extrusion				1		
	T76	Sheet		12		7		
	T7651	Plate	148	4		17		9
	T7651 (SP)	Plate	10					
	T76511	Extrusion	21			3		1
	UNDERAGED 72HR 158F	Plate					1	
7075 (ALCLAD)	T6	Sheet		206		9		
	T7651	Plate	86					
7079	T6	Sheet		47		4		
		Plate	14				1	6
		Forging	4			4		
		Forged Bar	1					
		Billet				1		

TABLE 8.0.1 (CONTINUED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{IC}	K _c	R Curve	da/dN	da/dt	K _{ISCC}
7079 (Cont'd)	T651	Unspecified					5	
		Sheet		23		4		
		Plate	105	29			37	4
	T651+ 50HR AT 320F	Plate					1	
	T651+500HR AT 320F	Plate					1	
7079 (ALCLAD)	T652	Forging	36			27		
	T851	Plate	9					
	T6	Sheet		42				
	T7	Forging	2					
7080		Forged Bar	4					
7149	T73511	Extrusion	6			10		
7150	T651	Plate				9		
	T7751	Plate			16	11		
	T77511	Extrusion				12		
	T66	Forging	13				2	3
7175	T73	Forging	5					
		Extrusion	1					
		Extrusion	45	35				9
	T7352	Forging	7					
	T7354	Forging				4		
	T736	Forging	93			45	2	2
	T73652	Forging	4			29		20

TABLE 8.0.1 (CONTINUED)
AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{lc}	K _c	R Curve	da/dN	da/dt	K _{Isc}
7175 (Cont'd)	T74	Unspecified				2		
		Forging				32		
	T76511	Extrusion	115			3		
7178	T6	Sheet		64		27		
		Sheet				1		
		Plate	18	7		8	1	
	T651	Extrusion	2					
		Plate					1	
		Plate					1	
	T651+ 11HR AT 320F	Extrusion						
	T651+ 8HR AT 320F	Plate					1	
	T651+ 12HR AT 320F	Plate					1	
	T6510	Extrusion	8					
	T76	Sheet				4		
	T7651	Plate	39	8		11	1	
7178 (ALCLAD)	T76510	Extrusion	15			5		
		Forged Bar	5					
		Extruded Bar				3		
	T76511	Extrusion	13					
	T6	Sheet		10				
	T76	Sheet		8				
	T6	Sheet				7		
		Plate	2					
		Sheet		80		19		
	T61	Plate		8		2		

TABLE 8.0.1 (CONTINUED)
AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{IC}	K _c	R Curve	da/dN	da/dt	K _{Isc}
7475 (Cont'd)	T6151	Sheet				5		
	T651	Plate	152			11		
	T651 (SP)	Plate	34					
	T73	Plate	6					
	T7351	Plate	330	18	43	124		20
	T7351 (SP)	Plate	26					
	T736	Forging	1					
	T7531	Plate				1		
	T76	Sheet				1		
	T761	Sheet		66	4	40	2	
		Plate		12				
	T7651	Sheet			10	10		
		Plate	28	3	19	23		6
	T7651 (SP)	Plate	20					
	T7651; 255F 4HR	Plate				5		
7475 (ALCLAD)	T61	Sheet		84		31		
		Plate		4				
	T73	Sheet		4				
	T731	Sheet		2				
		Plate		2				
	T761	Sheet		43		15		
		Plate		4				

TABLE 8.0.1 (CONCLUDED)

AVAILABLE DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS

Alloy	Condition/ Heat Treatment	Product Form	K _{Ic}	K _c	R Curve	da/dN	da/dt	K _{Isc}
8009	UNSPECIFIED	Sheet				6		
8090	T651	Extrusion	6			32		
	T8: 338F 24HRS	Extrusion	1			4		
X7090	T7E69	Plate				6		
X7091	T7E70	Plate				8		

TABLE 8.0.2

**PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS
AT ROOM TEMPERATURE**

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	K_{Ic} (Ksi \sqrt{in})											
				Specimen Orientation											
				L-T			T-L			S-L					
				Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev
7001	T75	Plate	1.37	1.36	4	24.1	1.7	1.36	6	20.7	1.8	---	---	---	---
7005	T6351	Plate	3.00	2.95	2	46.7	1.0	2.96	3	39.7	0.9	---	---	---	---
7010	T73651	Plate	2.00	0.75	4	33.5	4.6	0.75	5	27.9	2.8	0.75	2	23.1	0.5
7049	T73	Forging	1.00-7.10	0.50	29	30.8	3.0	1.00	20	21.9	2.5	0.50	39	21.3	2.5
		Extrusion	3.00	1.00	3	28.1	0.7	1.00	3	25.2	0.5	---	---	---	---
		Extruded Bar	3.25-3.50	1.00	3	33.2	2.7	1.00	3	22.0	0.5	---	---	---	---
	T7351	Plate	2.00-4.00	---	---	---	---	0.75	4	26.1	1.7	0.75	4	23.8	0.6
		Extruded Bar	1.50	1.25	2	33.9	0.1	1.25	2	26.0	0.1	---	---	---	---
		Extruded Bar	1.50	1.25	2	23.8	0.3	1.25	2	18.1	0.1	---	---	---	---
	T73511-MEDIUM PURITY	Extruded Bar	1.50	1.25	2	29.7	0.8	1.25	2	22.1	0.5	---	---	---	---
		Forging	3.00-7.10	2.00	2	36.2	1.0	---	---	---	---	1.00	6	19.5	2.8
7050	T76	Extruded Bar	3.25-3.50	1.00	3	32.7	1.7	1.00	3	20.0	0.3	---	---	---	---
		Plate	1.00-5.00	1.00	31	34.8	3.9	1.50	29	30.0	2.6	0.75	30	28.0	1.3
	T73511-HIGH PURITY	Extruded Bar	1.50	1.25	2	36.2	3.2	1.25	2	24.1	0.2	---	---	---	---
		Forging	3.00-6.00	0.70	4	32.3	2.3	1.00	4	23.4	1.0	1.51	6	24.6	0.6
	T73651	Plate	1.00-6.00	0.98	86	31.9	3.9	0.99	83	28.7	4.7	0.97	35	23.5	1.5
		Forging	3.50-7.50	1.50	11	31.1	2.5	1.50	13	20.7	1.4	0.75	17	19.2	1.4
	T73652	Forging													

TABLE 8.0.2 (CONTINUED)

**PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS
AT ROOM TEMPERATURE**

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	$K_{Ic} (Ksi\sqrt{in})$											
				Specimen Orientation											
				L-T			T-L			S-L					
				Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev
7050 (Cont'd)	T74511	Extrusion	0.75-1.50	0.73	4	40.4	5.0	---	---	---	---	---	---	---	---
	T7452	Forging	4.00	1.00	2	31.1	1.2	1.00	3	23.5	3.0	---	---	---	---
	T7651	Plate	0.75-1.00	0.74	6	33.4	2.8	---	---	---	---	---	---	---	---
	T76511	Extrusion	0.75-1.50	0.73	3	34.8	5.5	---	---	---	---	---	---	---	---
	T7E56	Forging	5.00	---	---	---	---	0.75	4	28.9	3.9	---	---	---	---
	T6	Forging	0.50-0.89	0.50	2	24.3	0.1	0.25	2	20.9	1.7	0.50	4	16.8	0.4
7075	T6	Extrusion	2.00	---	---	---	---	0.75	3	19.9	0.2	0.75	3	18.5	0.2
		Plate	0.37-5.00	0.51	63	26.5	2.0	0.38	75	22.5	2.0	0.50	11	17.6	2.7
		Extrusion	3.00-5.00	1.50	4	31.1	0.5	1.50	5	20.2	0.2	---	---	---	---
	T651	Rolled Bar	5.00	1.50	2	34.1	0.5	---	---	---	---	---	---	---	---
		Extrusion	0.68-3.50	0.50	12	27.5	2.1	0.50	16	23.3	1.6	0.25	3	20.0	1.3
		Forged Bar	0.68-5.00	0.62	13	29.2	3.4	0.50	13	21.4	1.8	0.25	7	18.7	0.9
	T6511	Extrusion	1.25	1.22	2	27.9	1.4	1.17	4	26.9	1.8	---	---	---	---
	T73	Forging	1.00	---	---	---	---	---	---	---	---	0.50	4	19.1	0.5
	T7351	Plate	1.00-4.00	0.51	47	29.4	2.2	0.51	36	26.2	3.2	0.50	7	18.5	0.4
	T73510	Extrusion	0.68-3.50	---	---	---	---	0.50	9	24.6	2.3	1.00	2	20.3	0.8
	T73511	Extrusion	3.50	1.63	4	39.6	3.1	1.75	3	26.8	1.1	1.00	2	21.9	1.1

TABLE 8.0.2 (CONTINUED)

**PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS
AT ROOM TEMPERATURE**

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	$K_{Ic} (Ksi\sqrt{in})$											
				Specimen Orientation											
				L-T			T-L			S-L					
				Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev
7075 (Cont'd)	T73511-HIGH PURITY	Extruded Bar	1.50	1.25	2	43.0	1.7	1.25	2	30.0	0.1	---	---	---	---
	T73511-LOW PURITY	Extruded Bar	1.50	1.25	2	27.3	0.2	1.25	2	21.7	1.7	---	---	---	---
	T73511-MEDIUM PURITY	Extruded Bar	1.50	1.25	2	30.6	0.2	1.25	2	21.9	0.3	---	---	---	---
	T7352	Forging	2.00-6.00	0.75	14	33.6	3.1	0.75	13	26.6	2.8	0.50	8	21.7	3.2
	T73652	Forging	6.00	2.00	3	35.0	1.8	1.75	3	26.6	2.7	---	---	---	---
7075 (ALCLAD)	T7651	Plate	0.56-2.60	0.75	25	28.5	1.5	0.50	45	23.1	2.0	0.38	16	17.8	1.5
	T76511	Extrusion	1.44-7.04	1.17	6	35.7	4.4	1.25	4	23.6	2.8	---	---	---	---
	T7651	Plate	0.50-0.62	0.62	3	28.6	2.2	0.50	26	25.2	1.9	---	---	---	---
	T6	Plate	3.00	1.00	8	33.0	2.9	---	---	---	---	---	---	---	---
	T651	Plate	1.00-5.00	0.97	39	27.6	1.8	0.50	27	23.3	2.0	0.50	10	18.5	3.2
7079	T652	Forging	2.00-6.00	0.75	13	27.8	2.2	0.75	10	23.1	2.2	0.25	12	18.1	0.7
	T851	Plate	1.37-1.50	1.00	7	28.6	1.6	1.00	2	21.3	3.4	---	---	---	---
	T73511	Extrusion	3.00	1.01	3	31.5	0.8	1.01	3	24.2	0.3	---	---	---	---
7149	T68	Forging	1.00	---	---	---	---	---	---	---	---	---	---	---	---
	T73	Forging	1.00-8.50	---	---	---	---	---	---	---	---	---	---	---	---
	T73511	Extrusion	1.30-1.80	0.50	17	32.8	6.5	0.50	12	27.0	4.9	---	---	---	---
	T7352	Forging	0.75	---	---	---	---	0.62	2	24.5	0.5	---	---	---	---
7175	T73511	Extrusion	1.30-1.80	0.50	17	32.8	6.5	0.50	12	27.0	4.9	---	---	---	---
	T7352	Forging	0.75	---	---	---	---	0.62	2	24.5	0.5	---	---	---	---

TABLE 8.0.2 (CONCLUDED)

**PLANE STRAIN FRACTURE TOUGHNESS VALUES OF ALUMINUM 7000/8000 SERIES ALLOYS
AT ROOM TEMPERATURE**

Alloy	Condition/ Heat Treatment	Product Form	Range of Product Thickness (in.)	$K_{Ic} (Ksi\sqrt{in})$											
				Specimen Orientation											
				L-T			T-L			S-L					
				Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev	Min Spec Thk	n	Mean	Std Dev
7175 (Cont'd)	T736	Forging	1.00-4.00	0.50	4	31.2	3.8	0.50	10	26.4	3.6	0.50	23	25.3	2.1
	T73652	Forging	1.25-3.10	1.25	2	32.7	8.0	---	---	---	---	---	---	---	---
	T76511	Extrusion	1.40-3.75	0.60	48	32.9	3.5	0.60	36	22.6	2.5	0.75	3	20.9	1.3
	T651	Plate	0.50-1.37	0.50	6	25.3	1.9	0.46	10	21.5	1.8	0.50	3	15.0	0.3
7178	T6510	Extrusion	0.68-3.50	---	---	---	---	0.50	6	18.5	1.3	1.00	2	14.5	0.1
	T7651	Plate	0.50-2.00	0.45	16	27.8	1.8	0.45	18	23.1	2.4	0.50	5	17.3	0.4
	T76510	Extrusion	0.68-3.50	0.62	6	30.5	1.0	0.62	5	26.8	1.1	1.00	2	16.2	0.4
		Forged Bar	3.50	---	---	---	---	0.50	5	19.2	1.2	---	---	---	---
	T76511	Extrusion	0.40-1.44	0.40	2	25.7	0.3	---	---	---	---	---	---	---	---
	T651	Plate	0.62-2.62	0.86	19	40.1	2.4	0.65	120	34.6	3.5	1.00	8	32.9	2.5
7475	T651 (SP)	Plate	1.30-2.00	1.28	8	35.3	1.9	1.28	11	34.4	2.1	0.50	10	27.3	1.6
	T7351	Plate	1.25-4.00	1.27	150	47.1	4.9	1.00	109	37.2	4.0	0.50	60	30.6	2.7
	T7351 (SP)	Plate	1.75-3.25	---	---	---	---	0.75	17	37.6	2.5	---	---	---	---
	T7651	Plate	0.87-2.00	0.95	11	42.1	3.7	0.89	8	34.0	2.9	0.75	5	27.6	0.8
8090	T7651 (SP)	Plate	1.75-2.00	1.79	3	42.4	2.9	1.00	3	35.7	0.4	0.75	6	27.3	2.1
	T651	Extrusion	1.00	0.25	5	20.4	5.9	---	---	---	---	---	---	---	---

TABLE 8.0.3.1
PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS
ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_{σ} (Ksi/\sqrt{in})																	
						Specimen Thickness (in.)																	
			Orient	Width (in.)		n - Sample size						μ - Mean			σ - Standard Deviation								
						0.063		0.125		0.250		0.500		1.000									
						n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ			
7001	T75	R.T.	L-T	20.0	706-722	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			T-L	3.0	67.7-68.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				20.0	69.6-71.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	T6	R.T.	L-T	15.0	73.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				16.0	75.7-80.1	5	65.6	5.0	3	60.2	1.3	2	59.9	1.4	...	...	...	...	...	...	...
				3.0	72.9-77.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7075	T6	R.T.		5.0	75.5	2	58.3	4.0	...	...	...	...	...	...	...	...	...	...	...	...	...
			T-L	15.0	73.3-76.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				16.0	72.9	5	62.1	3.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				24.0	69.0-75.5	7	46.2	5.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			L-T	3.0	77.3-79.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				4.0	77.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	T651	R.T.		20.0	76.6-80.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				3.0	73.4-77.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			T-L	4.0	72.0-76.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	T73	R.T.		15.0	77.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				20.0	73.6-77.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			L-T	16.0	60.0	2	82.9	3.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			L-T	8.0	61.1-62.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
				16.0	61.1-62.1
				20.0	60.6-64.6
	T7351	R.T.		36.0	61.1-62.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			T-L	20.0	63.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE 8.0.3.1 (CONTINUED)

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS

ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_{IC} (Ksi \sqrt{in})											
						Specimen Thickness (in.)						n - Sample size μ - Mean σ - Standard Deviation					
						0.063			0.125			0.250			0.500		
						n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ
7075 (ALCLAD)	T6	R.T.	L-T	30.0	71.8	2	90.0	6.2	---	---	---	---	---	---	---	---	---
			T-L	30.0	69.8	2	75.4	.4	---	---	---	---	---	---	---	---	---
7079	T651	R.T.	L-T	3.0	74.7	---	---	---	---	---	---	3	51.5	1.7	---	---	---
			---	20.0	74.3-76.1	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	3.0	71.4-72.6	---	---	---	3	51.7	.6	2	40.5	2.6	---	64.8	7.5
			---	20.0	71.3-72.6	---	---	---	---	---	---	---	---	---	12	38.0	1.2
7178	T6	R.T.	---	2.0	82.4-83.4	11	46.3	3.3	---	---	---	---	---	---	---	---	---
			L-T	3.0	75.3-83.6	---	---	---	12	50.6	4.6	---	---	---	---	---	---
			---	16.0	81.6	5	47.7	2.2	---	---	---	---	---	---	---	---	---
			---	2.0	77.8-81.0	13	44.6	2.5	---	---	---	---	---	---	---	---	---
			T-L	3.0	75.3-79.4	---	---	---	13	38.8	3.8	---	---	---	---	---	---
			---	16.0	78.6	5	46.5	1.8	---	---	---	---	---	---	---	---	---
			L-T	4.0	84.3	---	---	---	---	---	---	2	49.9	2.1	---	---	---
			T-L	4.0	79.5-80.4	---	---	---	---	---	---	5	28.0	2.9	---	---	---
7475	T7651	R.T.	L-T	20.0	71.2	---	---	---	---	---	---	---	---	---	---	---	---
			T-L	4.0	71.0	---	---	---	---	---	---	2	36.0	1.3	---	---	---
			---	20.0	70.5	---	---	---	---	---	---	---	---	---	3	48.8	1.0
			---	16.0	74.1-76.8	6	89.3	5.1	---	---	---	---	---	---	3	33.1	1.1
	T61	R.T.	T-L	16.0	72.6-73.8	6	85.7	4.8	---	---	---	---	---	---	---	---	---
			L-T	16.0	75.6	3	78.5	6.9	---	---	---	---	---	---	---	---	---
			T-L	16.0	71.6	3	85.0	6.5	---	---	---	---	---	---	---	---	---
			L-T	16.0	66.4-70.5	5	95.8	5.9	---	---	---	---	---	---	---	---	---
	T761	88.	T-L	16.0	65.0-69.0	5	94.4	3.1	---	---	---	---	---	---	---	---	---
			L-T	16.0	73.6	3	75.8	9.5	---	---	---	---	---	---	---	---	---
			T-L	16.0	71.4	3	90.2	6.0	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS ALUMINUM 7000/8000 SERIES ALLOYS (WITHOUT BUCKLING CONSTRAINTS)

[illegible]

TABLE 8.0.3.2

**PLANE STRESS AND TRANSITIONAL FRACTURE TOUGHNESS
ALUMINUM 7000/8000 SERIES ALLOYS (WITH BUCKLING CONSTRAINTS)**

Alloy	Condition/ Heat Treatment	Test Temp (°F)	Specimen		Yield Strength (Ksi)	K_c ($Ksi\sqrt{in}$)													
						Specimen Thickness (in.)													
			Orient	Width (in.)		n - Sample size			μ - Mean			σ - Standard Deviation							
						0.058			0.080			0.090			0.100			0.280	
n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ	n	μ	σ		
7050 (ALCLAD)	T76	R.T.	L-T	20.0	67.2	2	114.0	7.5											
				12.0	75.9														
				15.0	76.2														
				24.0	75.9														
				36.0	75.9														
7075	T6	R.T.	L-T T-L	24.0	75.5	10	73.3	8.1											
				8.0	78.3	6	63.4	5.5											
				36.0	60.5														
				6.0	73.1														
				12.0	73.1														
7075 (ALCLAD)	T6	R.T.	L-T	24.0	73.1	20	69.2	10.4											
				24.0	73.1														
				24.0	73.1														
				24.0	73.1														
				24.0	73.1														

TABLE 8.0.4.1

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-S STRESS RATIO: 0.1 - 0.33 FREQUENCY: 5.17 - 20. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-8} in/cycle)				
					ΔK Level (Ksi $\sqrt{\text{in}}$)				
					2.5	6.0	10.0	20.0	50.0
7010	T73651	PLATE	0.1	20			9.53	36.19	
7079	T652	FORGING	0.33	5.17			15.47		

TABLE 8.0.4.2

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7001	T75	SHEET	0.05	2				60.09		
7005	T6	SHEET	0.05	2			6.74	29.41		
7010	T73651	PLATE	0.1	20		0.28	2.81	55.45		
			0.3	10		0.51	8.82			
			0.5	10		1.06	11.76			
			0.65	10		1.82	15.59			
			0.65	20		2.9	18.58			
			0.8	10		3.17				
7049	T73511-HIGH PURITY	EXTRUSION	0.1	30			7.98			
	T73511-LOW PURITY	EXTRUSION	0.1	30			7.11			
	T73511-MEDIUM PURITY	EXTRUSION	0.1	30			3.41			
	T73511	EXTRUSION	0.1	10			5.37	49.71		
7050	T73511-HIGH PURITY	EXTRUSION	0.1	30			6.18			
	T736	FORGING	0.1	3-10			12.17	59.43		
	T73651	PLATE	0.1	5			4.67	44.92		
			0.1	5-10			7.23	46.45		
			0.1	3-20			9	56.77		
			0.1	25		0.68	3.34	36.26		

TABLE 8.0.4.2 (CONTINUED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-8} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T74	HAND FORGING	0.1	20			5.01	50.71		
			0.1	30		0.15				
			0.5	20		1.08	11.16			
			0.8	20		2.18				
			-1	10		0.89	5.51			
	T7451	PLATE	-1	10		1.19	7.59			
			-0.66	10		0.67	5.05	39.63		
			-0.33	10		0.6	5.47	31.02		
			0.	10		0.48	6.2			
			0.	10		0.52	5.29	41.81		
	T74511	EXTRUSION	0.02	10		0.44	6.49	45.2		
			0.02	15			5.4	37.98		
			0.55	10	0.14	1.75	15.73			
			0.1	1			7.5			
			0.1	5		0.41	7.55			
			0.1	5-10	0.14	1.48				
			0.1	20	0.05	0.61	7.38			
			0.1	20	0.05	0.46	7.39	49.87		

TABLE 8.0.4.2 (CONTINUED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T74511 (Cont'd)	EXTRUSION (Cont'd)	0.1	20-30	0.09	1.01				
			0.1			0.44	5.92			
			0.4	5-10	0.1	0.9	9.71			
			0.4	20	0.12	1.23				
			0.5	20		1.21	10.49			
			0.5	25	0.1	1.23				
			0.8	10			29.64			
			0.8	20		1.71				
			0.8	20	0.17	1.69				
			0.8	20		2.28				
			0.8		0.23	3.03				
			0.1	20		0.4	6.37	52.8		
			0.	5-20	0.27	2.29	8.15	38.94		
			0.1	5			6.88	55.77		
			0.1	5		0.58	5.2			
7050 (Cont'd)	T7452	FORGING	0.1	5-15		0.52	7.54	45.45		
			0.1	20		0.14	4.82	57.73		
			0.4	5-15	0.09	0.83	11.73			

TABLE 8.0.4.2 (CONTINUED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-8} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T7452 (Cont'd)	FORGING (Cont'd)	0.4	20		0.32	7.08			
			0.8	5		4.72				
			0.8	5-30	0.19	2.56				
	T76	SHEET	0.	13.3			7.46	40.29		
			0.33	13.3			10.38	69.05		
			-1	2-10				0.16	6.3	
	T7651	PLATE	0.	1					922.41	
			0.02	1-20		0.53	8.33	24.44		
			0.05	2			5.11			
			0.05	5	0.1	0.88	5.85	40.21	824.71	
			0.1	5	0.09	0.49	6.04			
			0.4	5		1.35	9.51			
			0.4	15	0.09	1.12	9.32			
			0.4	5-20	0.11	1.35				
			0.4		0.13	1.22				
			0.8	10		2.78				
			0.8	10	0.21	2.7				
			0.8	15	0.18	1.17				

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-8} in/cycle)					
					ΔK Level (Ksi $\sqrt{\text{in}}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7050 (Cont'd)	T76511	EXTRUSION	-1	2-10		0.3	5.51			
			0.1	1				57.88		
			0.1	5	0.09	0.79	5.49			
			0.1	5	0.12	0.9	7.91			
			0.1	20	0.07	0.62	7.31	42.94		
			0.4	1			10.38			
			0.4	5-10	0.14					
			0.4	20	0.07	1.12	7.89			
			0.8	5	0.23	3.81				
			0.8	20	0.16	1.93				
7075	T6	SHEET	0.02	1				99.02		
			0.02	3				91.73		
			0.02	10			13.95	60.44		
			0.02	0.1-30				54.22		
			0.02	0.1-30				75.47		
			0.02	0.1-30			11.34	49.45		
			0.5	1			36.66			
			0.5	3			45.43			
			0.5	10		6.02	30.42	298.62		

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	STRESS RATIO: -1.0 - 0.8					FREQUENCY: 0.08 - 40. Hz				
					FCGR (10^{-8} in/cycle)					ΔK Level (Ksi/in)				
					2.5	5.0	10.0	20.0	50.0	100.0				
7075 (Cont'd)	T651	PLATE	0.02	10			8.02	53.63						
			0.02	0.1-30				65.66						
			0.02	1-30		1.69	17.34	80.15						
			0.02	0.1-30				49.44						
			0.02	0.1-30				61.61						
			0.02			1.67	14.98	59.24						
			0.33	7.5			14.89							
			0.5	10		3.02	20.79	657.63						
			-0.5	2-5	0.09	0.74								
			-0.1	2-5	0.05	0.72	7.7							
	T6510	UNSPECIFIED	0.1	2-5		0.4	3.04							
			0.5	2-5	0.1	0.88								
		EXTRUSION	0.33	5.2			24.33							
		EXTRUDED BAR	0.33	5.2			17.11							
		FORGING	0.1	40	0.09	1.18								
			0.5	30	0.19									
		EXTRUSION	-1			1.01	13.77							
			-0.5			0.76	14.84	53.88						
	T6511		0.01			0.99	13.04	68.19						

TABLE 8.0.4.2 (CONTINUED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T6511 (Cont'd)	EXTRUSION (Cont'd)	0.4	5	0.15	2.76	29.07			
			0.6		0.19	3.72	35.58			
			0.8	3	0.41	6.36	119.9			
	T73	PLATE	-1	20		0.57	9.02			
			-0.5	20		0.55	8.53			
			0.05	20	0.06	0.58	11.43			
			-1	10			4.99	50.45		
			0.02	0.08			3.92	73.22		
	T7351	PLATE	0.02	1			5.04	41.54		
			0.02	10			3.54	32.48		
			0.02	10			5.1	45.2		
			0.02	10			4.08	42.79		
			0.02	0.1-15			10.86	84.32		
			0.02	0.1-20		0.36	4.38	49.07		
			0.5	10		1.87	11.65	125.97		
7075 (Cont'd)	T73510	EXTRUSION	0.33	5.2			12.23			
		EXTRUDED BAR	0.33	5.2			12.72			
			0.33	5.2			12.83	92.16		

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi $\sqrt{\text{in}}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T73511	EXTRUSION	0.1	10		0.7	11.04	55.56		
			0.1	20		0.84	9.82	58.35		
			0.5	20		2.14	12.88			
			0.5	20		2.22	15.09			
			0.5	25	0.13					
			0.8	20		2.25				
			0.8	30	0.27					
		EXTRUSION	0.1	30			6.41	37.29		
		EXTRUSION	0.1	30			7.8			
		EXTRUSION	0.1	30			7.46			
7079	T7352	FORGING	0.33	5.17			13.73			
		BILLET	0.02	1-30				32.78		
		HAND FORGING	0.8	20		2.53				
	T74511	EXTRUSION	0.5	0.5		1.65	10.86			
		SHEET	0.05	2				64.8		
	T6	SHEET	0.5	2				360.68		
		BILLET	0.02	1-30			10.4	108.02		
	T651	SHEET	0.05	2			16.1	93.89		
	T652	FORGING	0.33	5.17			22.35	144.68		

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (K_{SI}/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7149	T73511	EXTRUSION	0.1	2-10		1.61	8.05	54.43		
			0.1	1-20		1.65				
			0.1	3		0.52	7.76			
			0.1	5	0.08	0.71	7.54			
			0.1	10	0.09	0.49	7.31			
7150	T7751	PLATE	0.4	5	0.14	2.11	14.37			
			0.4	10	0.14	1.87	14.89			
			0.4	15	0.15	1.6	11.49			
			0.8	10	0.5	6.53				
			0.1	20	0.16	2.61	9.15	60.08		
			0.1	25	0.34	3.46	8.07			
			0.4	20	0.87	2.07	4.02			
			0.8	20	0.78	6.45				
			0.02	10			10.52	57.48		
			0.02	1-15	0.12					
7175	T73652	FORGING	0.02	1-18	0.12	0.76	7.48			
			0.02	0.1-20			8.39	37.54		

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7175 (Cont'd)	T74	FORGING	0.02	0.08-10			3.44	38.3		
			0.02	0.1-20		0.51	8.78	33.73		
			0.02			0.16	2.43	35.19		
			0.02			0.31	7.65	46.92		
			0.1	10		1.5	9.96			
			0.1	10			9.23	64.01		
			0.1	25	0.13	1.77				
			0.5	10		2.68	16.24			
			0.5	20		2.29	16.19			
			0.5	25	0.14					
			0.8	10		4.66				
			0.8	20	0.2	3.05				
7178	T6	UNSPECIFIED	0.1	10			4.07	50.49		
		SHEET	0.02	1				109.75		
			0.02	5			12.3			
			0.02	13			9.77			
			0.02	14			12.22	89.91		
			0.5	1			39.26			

TABLE 8.0.4.2 (CONTINUED)

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FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE

ORIENTATION: L-T STRESS RATIO: -1.0 - 0.8 FREQUENCY: 0.08 - 40. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi $\sqrt{\text{in}}$)					
					2.5	5.0	10.0	20.0	50.0	100.0
7178 (Cont'd)	T6 (Cont'd)	SHEET (Cont'd)	0.5	3			59.88			
			0.5	14			44.51			
	T651	SHEET	0.02	0.1-12		0.92	15.34	104.72		
			0.	20		0.81	13.19	54.46		
		PLATE	0.02	0.1-12		1.12	17.2	151.49		
			0.02	0.1-12		0.91	14.1	86.56		
	T76	SHEET	0.02			0.64	7.18	58.42		
			0.02			0.59	7.09	64.88		
	T7651	PLATE	0.33	5.2			12.47			
			0.33	5.2			13.65			
			0.33	5.2			11.95			
7475	T76510	EXTRUSION	0.33	5.2			12.29			
		EXTRUDED BAR	0.33	5.2			12.63			
	T6	SHEET	0.1	5			13.47			
			0.1	10			45.57			
			0.1	10			4.74			
			0.3	10			9.35	77.1		
			0.5	5		2.14				
			0.5	10			12.44			

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	STRESS RATIO: -1.0 - 0.8					FREQUENCY: 0.08 - 40. Hz				
					FCGR (10^{-6} in/cycle)					ΔK Level (Ksi/in)				
					2.5	5.0	10.0	20.0	50.0	100.0				
7475 (Cont'd)	T61	PLATE	0.1	20			6.53							
	T6151	SHEET	0.1	20			5.12	43.17						
	T651	PLATE	0.33	25		1.03	18.69							
			-1	1						801.56				
			-1	2-15				0.4						
			0.02	0.1-20				0.21		40.96				
			0.05	5	0.05	0.55	5.31	39.92	575.67					
			0.1	5-10			6.44	66.02						
			0.1	10		0.25	4.99							
			0.1	20			5.65							
			0.1	5-20	0.03	0.34	5.49	49.68						
			0.4	5-15		0.95								
			0.4	20	0.15	1.03	10.09	64.81						
			0.5	10		1.05	14.52							
			0.8	20	0.16	2.43								
			0.8	5-30	0.14	2.46								
			0.1	3										
7475 (Cont'd)	T761	SHEET	0.1	7	0.07	0.9	8.75	39.95	44.02	994.06				
			0.1	3-20	0.09	0.6	7.27	40.61						

TABLE 8.0.4.2 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: L-T		STRESS RATIO: -1.0 - 0.8		FREQUENCY: 0.08 - 40. Hz							
ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)						
					ΔK Level (Ksi/in)						
					2.5	5.0	10.0	20.0	50.0	100.0	
7475 (Cont'd)	T761 (Cont'd)	SHEET (Cont'd)	0.1	20			5.65	32.53			
			0.4	5	0.14	1.61	13.29	58.93			
			0.4	5-15	0.13	1.74	19.64	69.11			
			0.8	10	0.3	3.67	16.04				
			0.8	3-15	0.07	2.02	23.06				
				0.	6			4.2	41.52		
				0.	30		0.28				
				0.4	30		1.02				
				0.4					76.25		
				0.8	2			21.49			
				0.8	5-10		3.51				
				0.	3					512.41	
				0.05	5			6.47	44.83		
				0.05	5-10		0.24				
				0.4	10		0.93	8.86	46.88		
				0.4	20	0.08	0.88				
				0.8	10		4.04				
				0.8	30	0.14	2.25				

TABLE 8.0.4.2 (CONCLUDED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	STRESS RATIO: -1.0 - 0.8						FREQUENCY: 0.08 - 40. Hz					
					FCGR (10^{-6} in/cycle)						ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0	2.5	5.0	10.0	20.0	50.0	100.0
7475 (Cont'd)	T7651; 255F 4HR	PLATE	0.05	8		0.39	7.59	90.38	665.88							
			0.4	5												
			0.4	5-15	0.1	1.53										
			0.8	10-15	0.25	3.34	19.14									
7475 (ALCLAD)	T61	SHEET	0.	13.3			5.6	33.04								
			0.	13.3			6.37	31.76								
			0.33	13.3			12.36	57.7								
			0.33	13.3			10.71	52.97								
8009	Unspecified	SHEET	0.1	5	0.29	1.05	4.43									
			0.5	5	0.32	1.25	6.05									
8090	T651	EXTRUSION	0.1	25			0.85	17.86								
			0.33	25		0.27	1.86	34.84								

TABLE 8.0.4.3

1 of 1

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: T-S STRESS RATIO: 0.1 - 0.33 FREQUENCY: 5.17 - 20. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
					ΔK Level (Ksi/in)				
					2.5	5.0	10.0	20.0	50.0
7010	T73651	PLATE	0.1	20			6.19	22.83	
7075	T7352	FORGING	0.33	5.17			9.75		
7079	T652	FORGING	0.33	5.17			10.3	60.49	

TABLE 8.0.4.4

1 of 3

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: T-L STRESS RATIO: 0.0 - 0.8 FREQUENCY: 1. - 30. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7010	T73651	PLATE	0.1	20			5.51	88.21		
	T73511-HIGH PURITY	EXTRUSION	0.1	30			7.66			
7049	T73511-LOW PURITY	EXTRUSION	0.1	30			9.32			
	T73511-MEDIUM PURITY	EXTRUSION	0.1	30			8.49			
7050	T73511-HIGH PURITY	EXTRUSION	0.1	30			3.74			
	T736	FORGING	0.1	10			6.94	98.63		
	T73651	PLATE	0.1	5-10			8.05	47.14		
	T7452	FORGING	0.1	5-15		0.09	0.75	7.5		
			0.4	5-20			0.82			
7075	T6	SHEET	0.8	10-15		0.18				
			0.	13.3			6.28	40.73		
	T73510	EXTRUSION	0.33	13.3			11.19	175.2		
	T73511-HIGH PURITY	EXTRUSION	0.33	5.2			14.15			
	T73511-LOW PURITY	EXTRUSION	0.1	30			4.47	34.47		
			0.1	30			8.52			

TABLE 8.0.4.4 (CONTINUED)

2 of 3

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: T-L STRESS RATIO: 0.0 - 0.8 FREQUENCY: 1. - 30. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-8} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075 (Cont'd)	T7352	PLATE	0.02			1.08	10.23			
			0.02			0.48	6.44	59.97		
		FORGING	0.02					27.53		
			0.02			1.88	14.09	132.86		
			0.33	5.17			11.37	65.53		
7075 (ALCLAD)	T6	SHEET	0.	13.3			7.23	73.65		
			0.05	30		0.44				
			0.2	30	0.08	0.72				
			0.33	13.3			13.06	285.41		
			0.4	30	0.17					
7079	T6	FORGING	0.05	9		0.44	7.72	42.69		
			0.5	9	0.19	2.15	26.8			
			0.33	5.17			17.05			
7149	T652	FORGING	0.1	10			12.55	167.45		
			0.1	10-13			12.39	94.91		
			0.1	10-20		1.91	8.89			

TABLE 8.0.4.4 (CONCLUDED)

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: T-L			STRESS RATIO: 0.0 - 0.8			FREQUENCY: 1. - 30. Hz						
ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)							
					ΔK Level (Ksi/in)							
					2.5	5.0	10.0	20.0	50.0	100.0		
7175	T73652	FORGING	0.02	1-20			10.1	50.27				
	T74	FORGING	0.02	1-20		0.41	10.27	48.92				
7178	T651	PLATE	0.	20		0.56	12.12	82.3				
	T7651	PLATE	0.33	5.2			16.22					
			0.33	5.2			13.23					
7475	T6151	SHEET	0.1	20			6.79	46.35				
	T76	SHEET	0.33	13.3			9.29					
	T761	SHEET	0.1	20			4.27	43.73				
7475 (ALCLAD)	T61	SHEET	0.	13.3			8.56	22.04				
			0.33	13.3			10.48	33.83				
	T761	SHEET	0.	13.3			6.13	32.92				
8090	T651	EXTRUSION	0.33	13.3			10.27	48.15				
			0.1	25		0.25	0.34					
				0.33	25		0.49	5.12				

TABLE 8.0.4.5

1 of 1

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: S-T STRESS RATIO: 0.1 - 0.33 FREQUENCY: 1 - 10. Hz

ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
					ΔK Level (Ksi $\sqrt{\text{in}}$)				
					2.5	5.0	10.0	20.0	50.0
7050	T73651	PLATE	0.1	1-10			6.44	91.86	
7075	T7352	FORGING	0.33	5.17			13.29		
7079	T652	FORGING	0.33	5.17			18.3		

TABLE 8.0.4.6

1 of 1

**FATIGUE CRACK GROWTH RATE (FCGR) COMPARISON
AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
FOR ALUMINUM 7000/8000 SERIES ALLOYS IN LAB AIR AT ROOM TEMPERATURE**

ORIENTATION: S-L			STRESS RATIO: 0.33		FREQUENCY: 5.17 Hz					
ALLOY	CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
					ΔK Level (Ksi/in)					
					2.5	5.0	10.0	20.0	50.0	100.0
7075	T7352	FORGING	0.33	5.17			19.48			
7079	T652	FORGING	0.33	5.17			9.73			

TABLE 8.0.5

1 of 4

STRESS CORROSION CRACKING THRESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE									
Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Isc} K_{SI}/in				JP-4 Jet Fuel	Simulated Seawater
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	Environment		
7005	T63	Plate	S-L	28					
	T6 OVERHEATED WELD CENTER LINE	Plate	S-L	11					
7007	T6 REPAIRED WELD CENTER LINE	Plate	S-L	10.6					
	T6 REPAIRED WELD FUSION LINE	Plate	S-L	8.7					
	T6 REPAIRED WELD HEAT AFF ZONE	Plate	S-L	16.3					
	T6 WELD CENTER LINE	Plate	S-L	12					
	T6 WELD FUSION LINE	Plate	S-L	11					
7010	T6 WELD HEAT AFF ZONE	Plate	S-L	15					
	T73651	Plate	T-L	32.5(2)					
			S-L	17					
7049	T73	Forging	S-L	19.8					
		Extrusion	L-S	20.4					
			S-L	20.3					
	T73 INTEGRALLY STIFFENED		L-S	26.7					
		Extrusion	S-L	19.4					

TABLE 8.0.5 (CONTINUED)

2 of 4

STRESS CORROSION CRACKING THESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE								
Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Isc} Ksi/in				
				Environment				
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
7049 (Cont'd)	T7352	Forging	L-T		26.6(2)	21		
			T-L			20(4)		
			S-L			18.6(4)		
7050	T736	Forging	L-T	28.2				
			T-L	24.5				
	T73651	Plate	T-L	29.1		27.8(2)		
	T7651	Plate	L-T				22.5(2)	22(2)
7075	T6	Plate	T-L				22.5	22.3(2)
		Plate	S-L	19				
	T651	Plate	L-T	28.3				
		Plate	S-L	17				
	T73	Forging	T-L			25		
	T7351	Plate	L-T				28.7(4)	28.6(4)
T-L			23.9					
S-L			21		14.1(2)			

TABLE 8.0.5 (CONTINUED)

STRESS CORROSION CRACKING THRESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE							
Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Isc} K_{SI}/in			
				Environment			
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel
	T73511	Extruded Bar	L-T		35.6		
			S-L			20.6(3)	
	T7352	Forging	S-L	18			
	T7651	Plate	L-T		25(2)	21.8(2)	
			S-L			12.8(4)	
	T76511	Extrusion	T-L	29.1			
	T6	Plate	S-L	6.6(4)			
7079	T651	Plate	S-L	3			
	T66	Forging	S-L	6(3)			
	T73511	Extrusion	S-L	24.4(9)			
	T736	Forging	L-T	30.6			
			S-L	18.7			
			L-T		27.6(2)	22(4)	
	T73652	Forging	T-L			19.3(4)	16.9(2)
			S-T				17.7(2)
							18.1(2)
							17.3(2)

TABLE 8.0.5 (CONCLUDED)

4 of 4

STRESS CORROSION CRACKING THRESHOLD DATA FOR ALUMINUM 7000/8000 SERIES ALLOYS AT ROOM TEMPERATURE								
Alloy	Condition/ Heat Treatment	Product Form	Specimen Orientation	K_{Isc} K_{sk}/\sqrt{in}				
				Environment				
				3.5% NaCl	Shop Cleaning Solvent	Sump Tank Water	JP-4 Jet Fuel	Simulated Seawater
7475	T7351	Plate	L-T	40.1(2)		40.7(2)	35.1(2)	35.1(2)
			T-L	32.7(2)		32.8(2)	30.5(2)	30.6(2)
			S-L	25.5(2)		28.8(2)		
	T7651	Plate	L-T			33(2)		
			T-L	35.7(2)		32.7(2)		

TABLE 8.1.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7001 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} (ksi \sqrt{in})									
		Specimen Orientation									
		L-T			T-L			S-L			
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	
Plate	T75	24.1	1.7	4	20.7	1.8	5	---	---	---	---

7001

TABLE 8.1.1.2

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7001 AT ROOM TEMPERATURE

ORIENTATION: L-T				ENVIRONMENT: Lab Air						
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)						
				ΔK Level (Ksi/in)						
				2.5	5.0	10.0	20.0	50.0	100.0	
T75	SHEET	0.05	2				60.09			

TABLE 8.1.2.1

1 of 1

ALUMINUM 7001 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) √(in.)	K _{1c} MEAN	STAN DEV		
T75	Plate	1.37	R.T.	L-T	70.6	3.000	1.381	NB	1.463	0.24	22.00	24.1	1.7	1973	86213
		1.37			70.6	3.000	1.382	NB	1.560	0.27	23.40			1973	86213
		1.37			72.2	3.000	1.360	NB	1.594	0.32	25.80			1973	86213
		1.37			72.2	3.000	1.364	NB	1.513	0.30	25.00			1973	86213
T75	Plate	1.37	R.T.	T-L	69.6	3.000	1.376	NB	1.587	0.23	21.30	20.7	1.8	1973	86213
		1.37			69.6	3.000	1.377	NB	1.532	0.29	23.60			1973	86213
		1.37			70.6	3.000	1.360	NB	1.564	0.19	19.60			1973	86213
		1.37			71.6	3.000	1.364	NB	1.463	0.19	19.90			1973	86213
T75	Plate	1.37	88	S-L	71.6	3.000	1.381	NB	1.584	0.18	19.10	15.8	0.2	1973	86213
		1.37			65.9	1.000	0.500	CT	0.494	0.14	15.80			1973	86213
		1.37			65.9	1.000	0.500	CT	0.478	0.14	15.60			1973	86213
		1.37			65.9	1.000	0.500	CT	0.510	0.15	15.90			1973	86213

7001

TABLE 8.1.2.2

ALUMINUM 7001 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS			K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T75	Sheet	0.12	R.T.	L-T	66.1	3.000	0.119	1.070	1.480	---	32.90	46.34	46.4	1.4	59.35*	---	---	---	1973	86213
		0.12			67.7	3.000	0.119	1.090	1.360	---	32.00	45.64			53.76*				1973	86213
		0.12			66.1	3.000	0.122	1.080	1.350	---	31.00	43.94			51.77*				1973	86213
		0.12			67.7	3.000	0.122	1.110	1.450	---	33.10	47.81			58.65*				1973	86213
		0.12			66.1	3.000	0.124	1.110	1.650	---	33.30	48.10			66.52*				1973	86213
		0.12			69.3	3.000	0.124	1.090	1.540	---	32.20	45.93			60.20*				1973	86213
		0.12			66.1	3.000	0.125	1.060	1.290	---	34.40	48.15*			55.43*				1973	86213
		0.12			67.7	3.000	0.125	1.110	1.320	---	32.90	47.52			53.97*				1973	86213
		0.12			69.3	3.000	0.125	1.090	1.400	---	33.40	47.64			57.46*				1973	86213
		0.12			67.7	3.000	0.126	1.100	1.380	---	30.90	44.35			52.53*				1973	86213
		0.12			69.3	3.000	0.126	1.090	1.410	---	32.80	46.79			56.76*				1973	86213
		0.12			69.3	3.000	0.127	1.080	1.240	---	32.60	46.21			50.98*				1973	86213
T75	Plate	1.00	R.T.	L-T	70.6	20.000	1.000	7.000	8.420	---	9.10	32.68	29.2	4.8	37.25	33.1	6.0	1973	86213	
		1.00			70.6	20.000	1.000	7.000	8.650	---	6.40	22.98			26.75			1973	86213	
		1.00			70.6	20.000	1.000	7.000	8.590	---	9.40	33.76			39.07			1973	86213	
		1.00			70.6	20.000	1.000	7.000	8.420	---	9.50	34.12			38.89			1973	86213	
		1.00			70.6	20.000	1.000	7.000	8.420	---	9.00	32.32			36.84			1973	86213	
		1.00			70.6	20.000	1.000	7.000	7.650	---	6.40	22.98			24.43			1973	86213	
		1.00			70.6	20.000	1.000	7.000	8.050	---	6.10	21.91					1973	86213		

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.1.2.2 (CONTINUED)

2 of 3

ALUMINUM 7001 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{max} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T76 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	L-T Cont'd	70.6	20.000	1.000	7.000	7.720	--	6.70	24.06	Cont'd	Cont'd	25.74	Cont'd	Cont'd	1973	86213
		1.00			72.2	20.000	1.000	7.000	8.500	--	8.60	30.88			35.46			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.650	--	9.10	32.68			38.03			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.420	--	9.00	32.32			36.84			1973	86213
		1.00			72.2	20.000	1.000	7.000	8.020	--	8.40	30.17			33.17			1973	86213
T76	Sheet	0.12	R.T.	T-L	68.6	3.000	0.123	1.090	1.220	--	25.90	36.94	36.0	2.1	40.02	39.5	2.7	1973	86213
		0.12			68.6	3.000	0.123	1.100	1.270	--	24.10	34.59			38.37			1973	86213
		0.12			67.7	3.000	0.124	1.210	1.240	--	22.00	33.79			34.40			1973	86213
		0.12			67.7	3.000	0.124	1.130	1.250	--	24.60	35.97			38.70			1973	86213
		0.12			68.6	3.000	0.124	1.110	1.300	--	24.80	35.82			40.20			1973	86213
		0.12			68.6	3.000	0.124	1.090	1.300	--	23.80	33.95			38.68			1973	86213
		0.12			67.7	3.000	0.125	1.120	1.280	--	28.70	41.71			45.97			1973	86213
		0.12			67.7	3.000	0.125	1.130	1.240	--	24.60	35.97			38.47			1973	86213
		0.12			68.0	3.000	0.126	1.120	1.220	--	24.80	36.04			38.32			1973	86213
		0.12			68.0	3.000	0.126	1.160	1.270	--	25.20	37.64			40.12			1973	86213
		0.12			68.0	3.000	0.128	1.140	1.400	--	24.20	35.61			41.63			1973	86213
		0.12			68.0	3.000	0.128	1.110	1.320	--	24.00	34.66			39.37			1973	86213

7001

TABLE 8.1.2.2 (CONCLUDED)

ALUMINUM 7001 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T75	Plate	1.00	R.T.	T-L	69.6	20.000	1.000	7.000	7.650	---	7.40	26.57	26.2	2.4	28.24	28.7	3.3	1973	86213
		1.00			69.6	20.000	1.000	7.000	7.900	---	7.20	25.86			28.12			1973	86213
		1.00			69.6	20.000	1.000	7.000	8.050	---	7.10	25.50			28.11			1973	86213
		1.00			69.6	20.000	1.000	7.000	8.050	---	7.00	25.14			27.71			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.330	---	8.30	29.81			33.70			1973	86213
		1.00			70.6	20.000	1.000	7.000	7.950	---	7.90	28.37			30.99			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.320	---	8.10	29.09			32.86			1973	86213
		1.00			70.6	20.000	1.000	7.000	8.450	---	8.00	28.73			32.87			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.900	---	6.90	24.78			26.95			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.000	---	6.50	23.34			23.34			1973	86213
		1.00			71.3	20.000	1.000	7.000	8.050	---	6.60	23.70			26.13			1973	86213
		1.00			71.3	20.000	1.000	7.000	7.900	---	6.40	22.98			24.99			1973	86213

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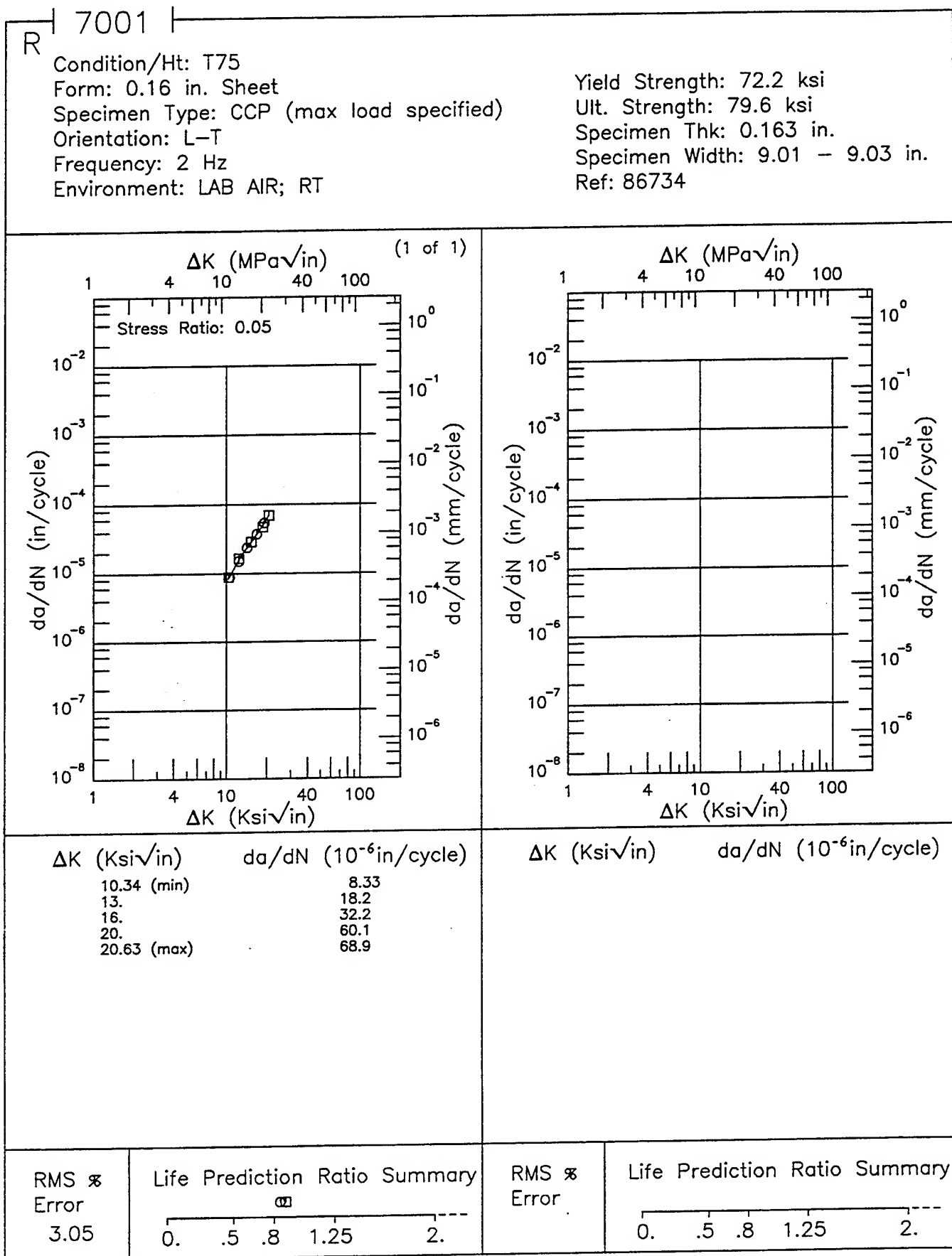


Figure 8.1.3.1

TABLE 8.2.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7005 AT ROOM TEMPERATURE

1 of 1

Product Form	Condition/Heat Treatment	K_{Ic} (ksi \sqrt{in})									
		Specimen Orientation									
		L-T		T-L		S-L					
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	
Plate	T6351	46.7	1.	2	39.7	0.9	3	---	---	---	---

7005

TABLE 8.2.1.2

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7005 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T6	SHEET	0.05	2			6.74	29.41	
								100.0

TABLE 8.2.2.1

1 of 1

ALUMINUM 7005 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{Ic} ITS) ³ (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{Ic} (Ksi • √in.)	K _{Ic} MEAN	STAN DEV		
T6351	Plate	3.00	R.T.	L-T	48.2	6.000	2.953	NB	2.922	2.42	47.40	46.7	1.0	1973	86213
		3.00			48.2	6.000	2.958	NB	2.927	2.28	46.00			1973	86213
		3.00			49.0	6.000	2.958	NB	2.960	1.56	38.70			1973	86213
T6351	Plate	3.00	R.T.	T-L	49.0	6.000	2.964	NB	3.107	1.67	40.00	39.7	0.9	1973	86213
		3.00			49.0	6.000	2.962	NB	2.943	1.71	40.50			1973	86213
		3.00			49.0	4.500	2.250	NB	2.260	1.72	40.60			1973	86213
T6351	Plate	3.00	82	T-L	47.5	2.500	1.250	CT	1.209	0.84	27.60	27.6	0.1	1973	86213
T6351	Plate	3.00	88	S-L	47.5	2.500	1.250	CT	1.196	0.84	27.50			1973	86213

7005

TABLE 8.2.2.2

ALUMINUM 7005 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in.)	K _{app} MEAN	STAN DEV	K _C (Ksi√in.)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	L-T	43.4	3.000	0.064	1.113	---	---	28.60	41.36*	---	---	---	---	---	1973	86213
		0.06																	
T6	Sheet	0.12	R.T.	L-T	45.1	3.000	0.125	1.123	---	---	29.80	43.36*	---	---	---	---	---	1973	86213
		0.12																	
T6	Plate	0.25	R.T.	L-T	49.8	4.000	0.258	1.597	---	---	32.40	57.00*	---	---	---	---	---	1973	86213
		0.25																	
T6	Sheet	0.06	R.T.	T-L	44.0	3.000	0.064	1.183	---	---	28.60	43.18*	---	---	---	---	---	1973	86213
		0.06																	
T6	Sheet	0.12	R.T.	T-L	45.6	3.000	0.125	1.110	---	---	30.10	43.47*	---	---	---	---	---	1973	86213
		0.12																	
T6	Plate	0.25	R.T.	T-L	50.6	4.000	0.258	1.598	---	---	32.40	57.05*	---	---	---	---	---	1973	86213
		0.25																	
T6351	Plate	1.00	R.T.	L-T	47.2	20.000	1.023	2.610	---	---	40.10	82.06*	---	---	---	---	---	1973	86213
		1.00																	
T6351	Plate	1.00	R.T.	T-L	47.2	20.000	1.023	7.000	---	---	29.70	106.66*	---	---	---	---	---	1973	86213
		1.00																	
T6351	Plate	1.00	R.T.	T-L	46.5	20.000	1.023	7.000	---	---	28.00	100.55*	---	---	---	---	---	1973	86213
		1.00																	
T6351	Plate	1.00	R.T.	T-L	46.5	20.000	1.023	2.610	---	---	38.10	77.96*	---	---	---	---	---	1973	86213
		1.00																	
T6351	Plate	1.00	R.T.	T-L	46.5	20.000	1.023	4.850	---	---	32.60	93.39*	---	---	---	---	---	1973	86213
		1.00																	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

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R 7005

Condition/Ht: T6
 Form: 0.16 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 2 Hz
 Environment: LAB AIR; RT

Yield Strength: 49 ksi
 Ult. Strength:
 Specimen Thk: 0.161 in.
 Specimen Width: 3.004 in.
 Ref: 86734

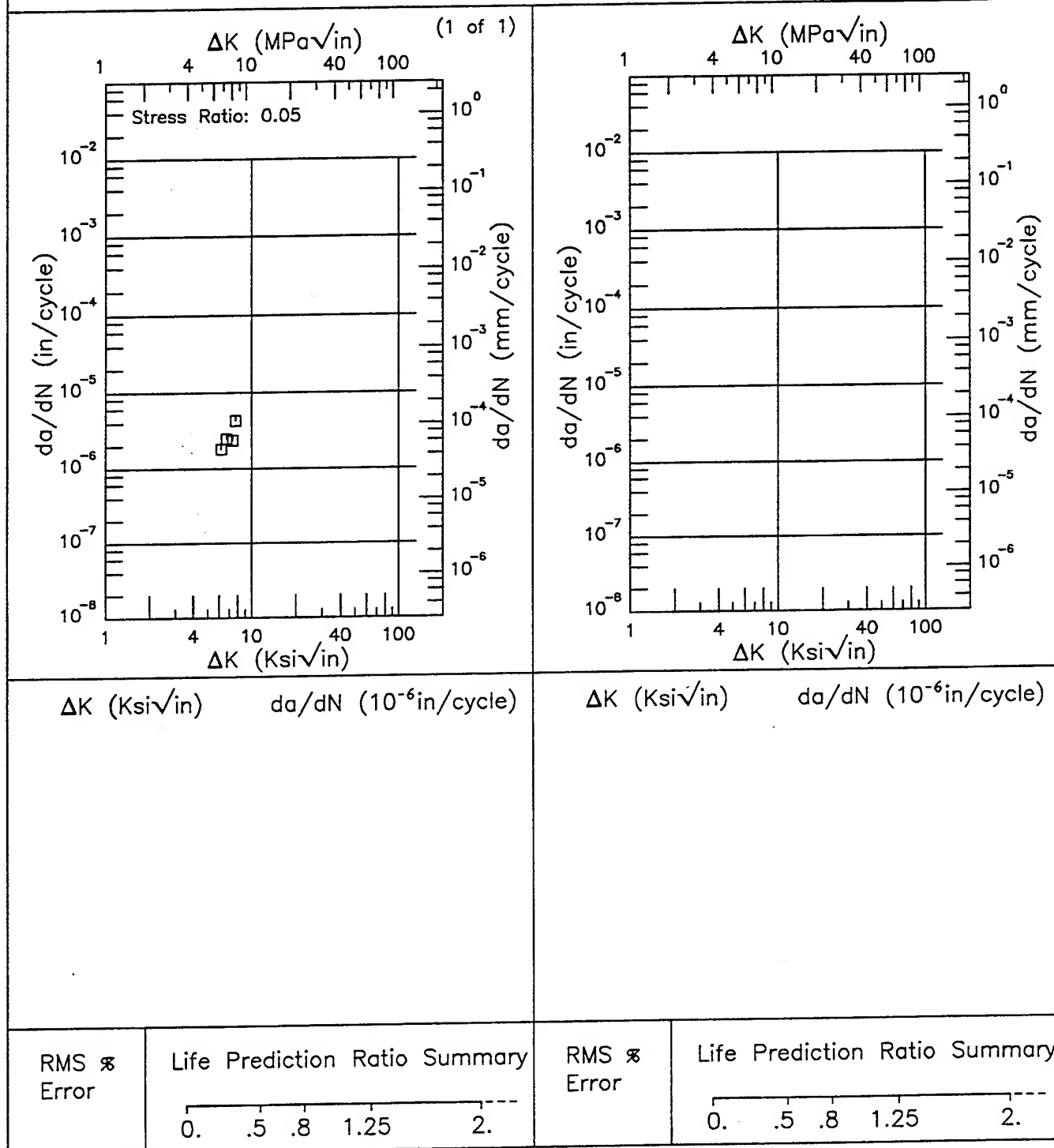


Figure 8.2.3.1.1

Condition/Ht: T6
 Form: 0.16 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 2 Hz
 Environment: LAB AIR; RT

Yield Strength: 49 ksi
 Ult. Strength:
 Specimen Thk: 0.1 in.
 Specimen Width: 3 in.
 Ref: 86734

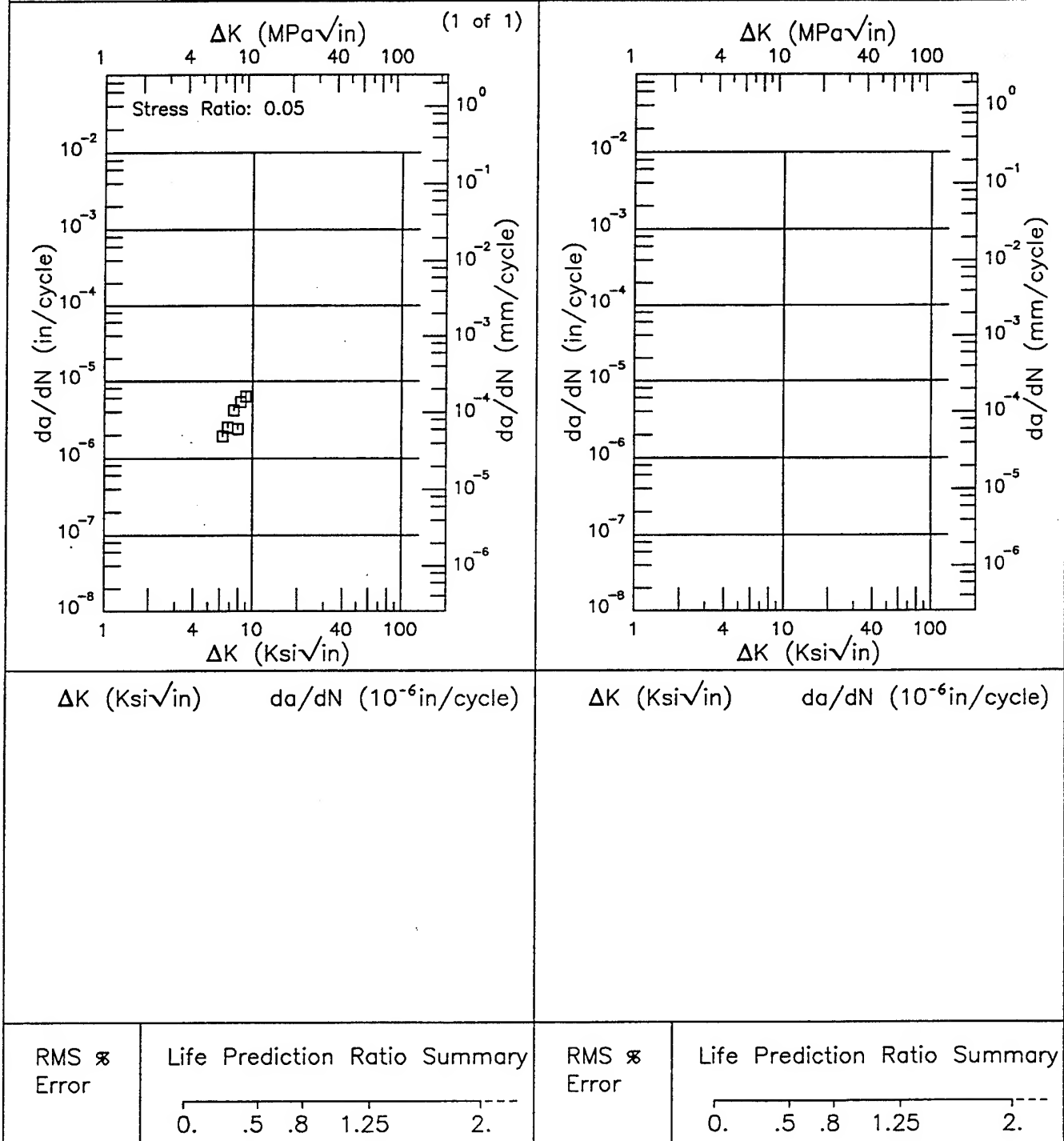
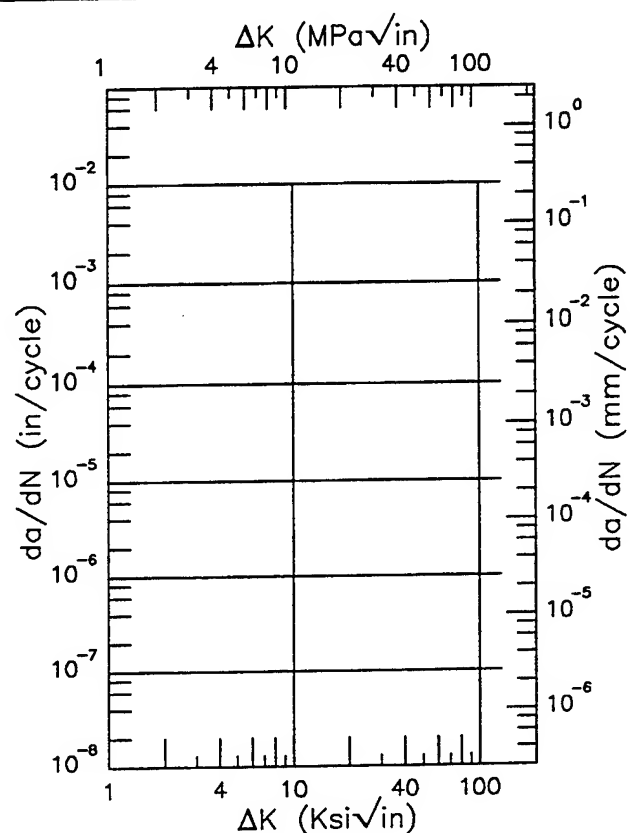
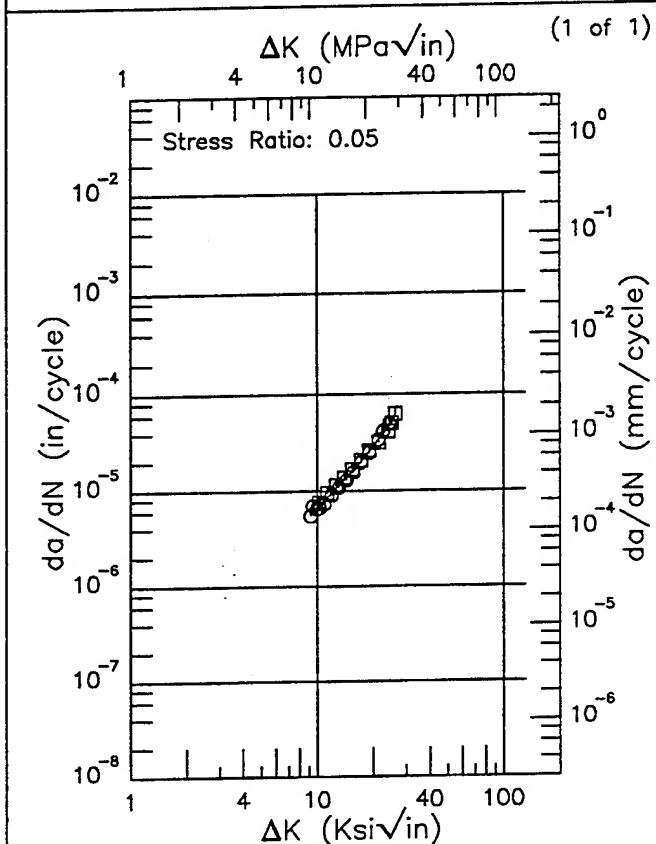


Figure 8.2.3.1.2

R 7005

Condition/Ht: T6
 Form: 0.16 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 2 Hz
 Environment: LAB AIR; RT

Yield Strength: 49 ksi
 Ult. Strength:
 Specimen Thk: 0.16 - 0.162 in.
 Specimen Width: 14 - 14.04 in.
 Ref: 86734



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
9.20 (min)	6.14
10.	6.74
13.	11.3
16.	17.3
20.	29.4
25.	50.9
26.14 (max)	61.5

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 6.24

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.2.3.1.3

TABLE 8.2.3.3

(1 of 1)

K_{I_{sec}} SUMMARY FOR ALUMINUM ALLOY 7005

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K _Q (Ksi√in)	K _{I_{sec}} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T63	P	R.T.	S-L	46	3.5% NaCl	DCB	4	1	1	---	42	28	---	1968	84331

TABLE 8.3.3.3
K_{Isec} SUMMARY FOR ALUMINUM ALLOY 7007

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K _Q (Ksi√in)	K _{Isec} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)							
T6 Overheated Weld Center Line	P	R.T.	S-L	37.2	3.5% NaCl	WOL	2.5	1	1	---	35	>11	---	1970	80073
T6 Repaired Weld Center Line	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	27	10.6	---	1970	80073
T6 Repaired Weld Fusion Line	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	41	8.7	---	1970	80073
T6 Repaired Weld Heat Aff Zone	P	R.T.	S-L	---	3.5% NaCl	WOL	2.5	1	1	---	42	16.3	---	1970	80073
T6 Weld Center Line	P	R.T.	S-L	39.9	3.5% NaCl	WOL	2.5	1	1	---	42	<12	---	1970	80073
T6 Weld Fusion Line	P	R.T.	S-L	39.9	3.5% NaCl	WOL	2.5	1	1	---	42	<11	---	1970	80073
T6 Weld Heat Aff Zone	P	R.T.	S-L	40.4	3.5% NaCl	WOL	2.5	1	1	---	40	>15	---	1970	80073

TABLE 8.4.1.1

MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7010 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} (ksi \sqrt{in})							
		Specimen Orientation							
		L-T		T-L		S-L			
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev
Plate	T73651	33.5	4.6	4	27.9	2.8	5	23.1	0.5

TABLE 8.4.1.2.1

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE**

ORIENTATION: L-S

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73851	PLATE	0.1	20			9.53	36.19	
								100.0

TABLE 8.4.1.2.2

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20		0.28	2.81	55.45		
		0.3	10		0.51	8.82			
		0.5	10		1.06	11.76			
		0.65	10		1.82	15.59			
		0.65	20		2.9	18.58			
		0.8	10		3.17				

TABLE 8.4.1.2.3

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE**

ORIENTATION: T-S

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.1	20			6.19	22.83	
								100.0

TABLE 8.4.1.2.4

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7010 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.1	20			5.51	88.21		

TABLE 8.4.2.1

ALUMINUM 7010 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi√in.)	K _{1c} MEAN	STAN DEV		
T73651	Plate	2.00	R.T.	L-T	63.2	1.500	0.750	CT	0.782	0.57	30.20	33.5	4.6	1980	BL001
		2.00			63.2	1.500	0.750	CT	0.777	0.52	28.90			1980	BL001
		2.00			64.4	3.000	1.500	CT	...	0.86	37.80			1980	UD003
		2.00			64.4	3.000	1.500	CT	...	0.83	37.10			1980	UD003
T73651	Plate	2.00	R.T.	T-S	62.9	1.500	0.750	CT	...	0.58	30.30	31.1	1.1	1980	UD003
		2.00			62.9	1.500	0.750	CT	...	0.64	31.80			1980	UD003
		2.00			62.9	1.500	0.750	CT	...	0.56	29.90			1980	UD003
		2.00			62.9	1.500	0.750	CT	...	0.53	29.00			1980	UD003
T73651	Plate	2.00	R.T.	T-L	62.9	1.500	0.750	CT	...	0.60	30.80	27.9	2.8	1980	UD003
		2.00			63.6	1.500	0.750	CT	0.766	0.38	24.80			1980	BL001
		2.00			63.6	1.500	0.750	CT	0.786	0.38	24.90			1980	BL001
		2.00			65.0	1.500	0.750	CT	...	0.32	23.40			1980	UD003
T73651	Plate	2.00	R.T.	S-L	65.0	1.500	0.750	CT	...	0.30	22.70	23.1	0.5	1980	UD003
		2.00			64.4	3.000	1.500	CT	...	0.87	38.00			1980	UD003
		2.00			64.4	3.000	1.500	CT	...	0.84	39.40			1980	UD003
		2.00			62.9	1.500	0.750	CT	...	0.50	28.00			1980	UD003

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EF

7010

Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-S
 Stress Ratio: 0.1

Yield Strength: 64.4 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.3 in.
 Specimen Width: 1.5 in.
 Ref: UD003

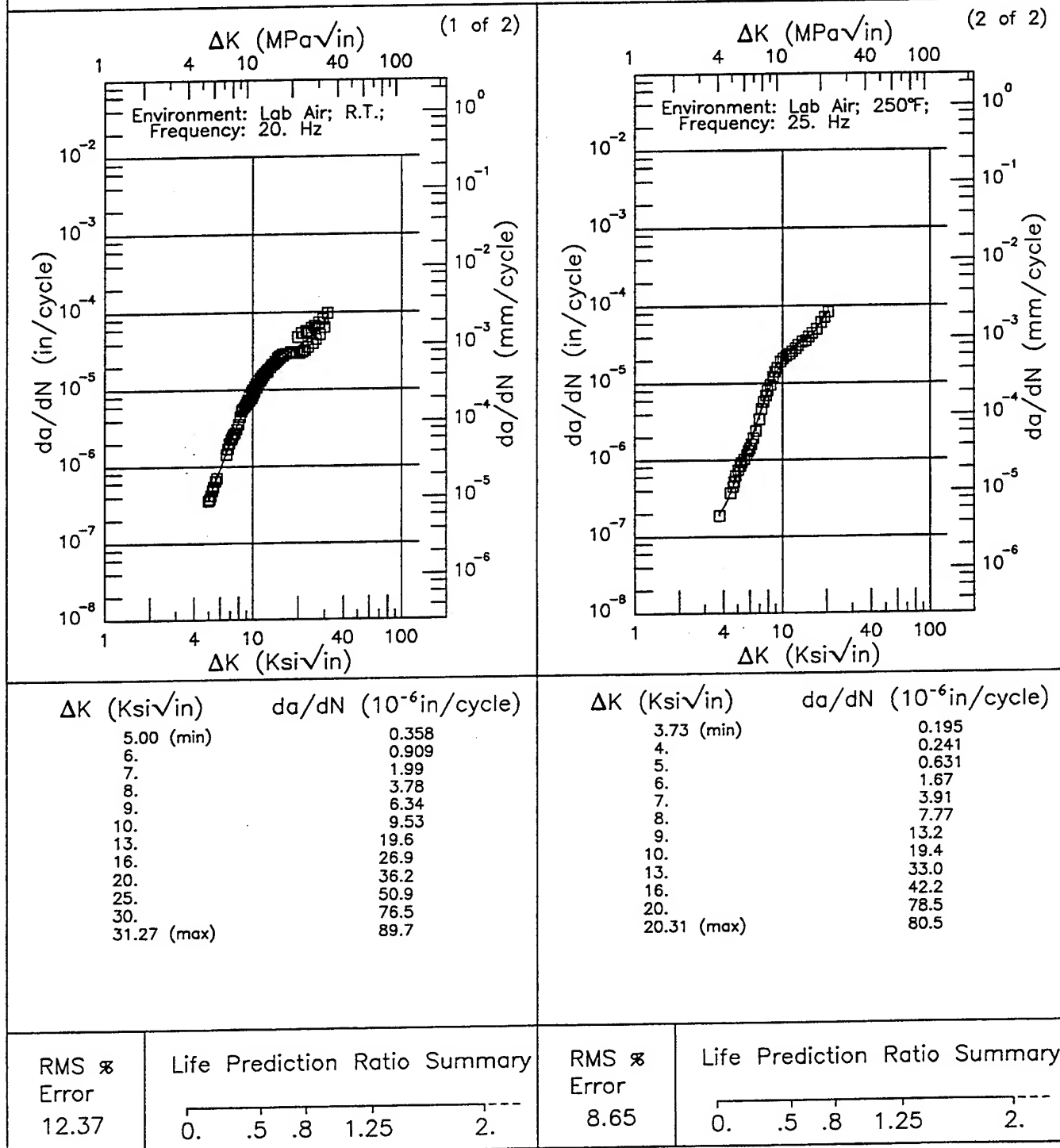


Figure 8.4.3.1.1

Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.3 in.
 Specimen Width: 1.5 in.
 Ref: UD002

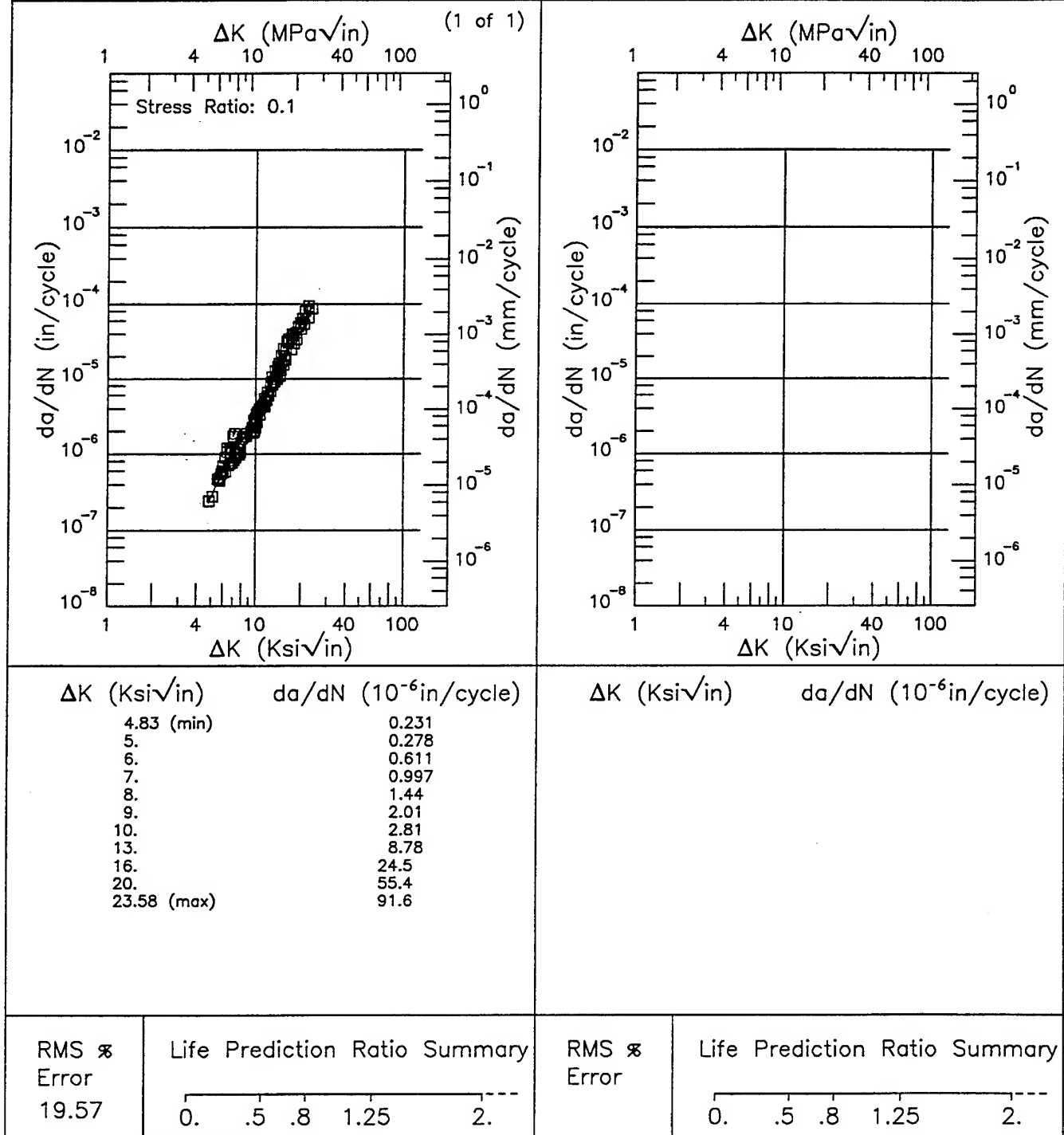
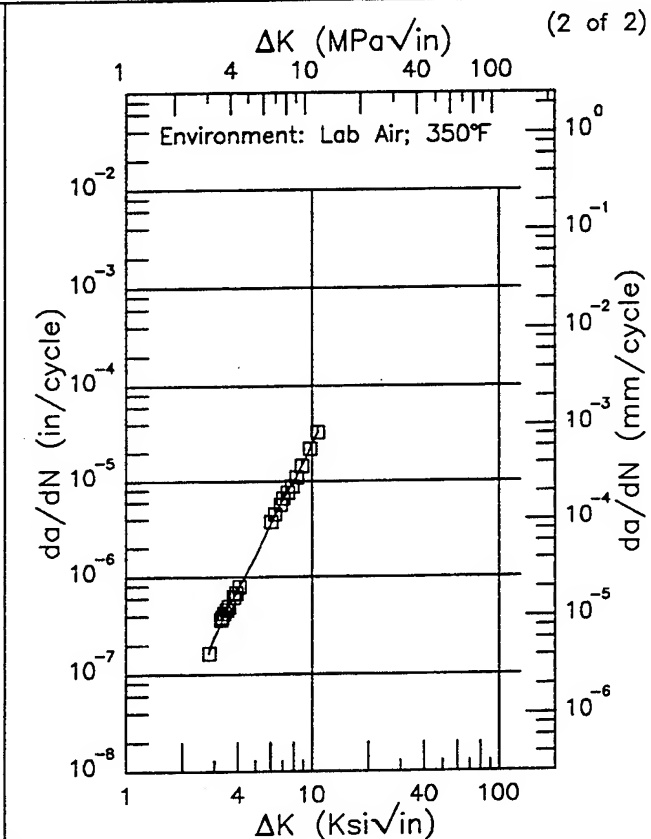
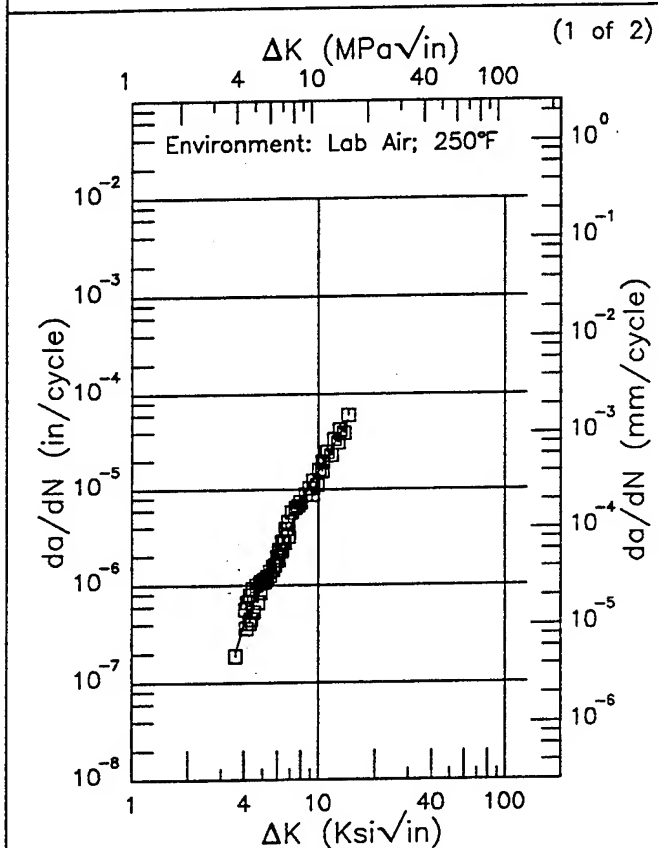


Figure 8.4.3.1.2

E 7010

Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 25 Hz

Yield Strength: 64.4 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.3 in.
 Specimen Width: 1.5 in.
 Ref: UD003

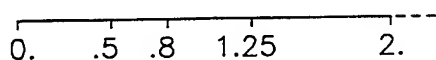


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.59 (min)	0.207
4.	0.403
5.	1.07
6.	2.06
7.	3.95
8.	7.15
9.	11.3
10.	15.4
13.	38.0
14.35 (max)	53.7

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.80 (min)	0.163
3.	0.241
3.5	0.466
4.	0.728
5.	1.60
6.	3.53
7.	6.42
8.	9.83
9.	15.4
10.	24.7
10.67 (max)	32.0

RMS %
 Error
 18.25

Life Prediction Ratio Summary



RMS %
 Error
 2.41

Life Prediction Ratio Summary

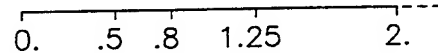
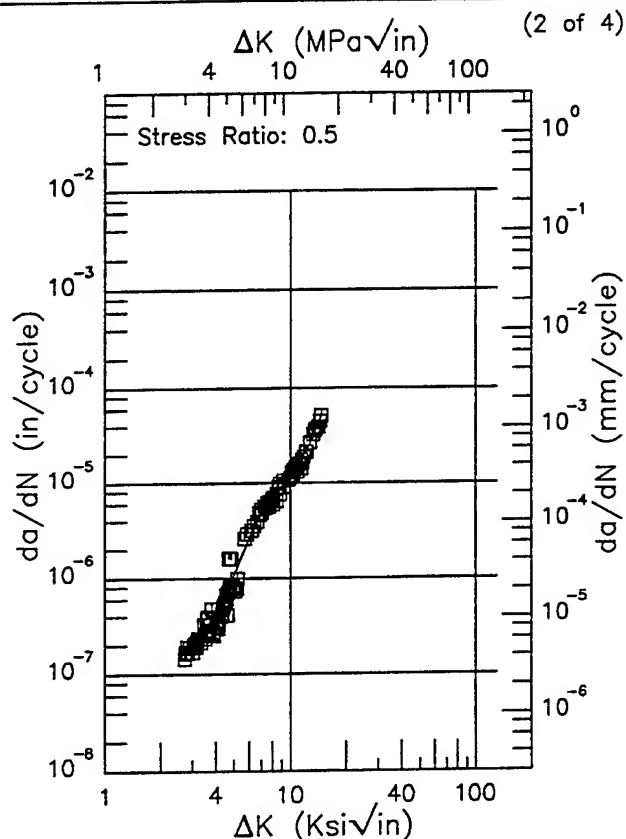
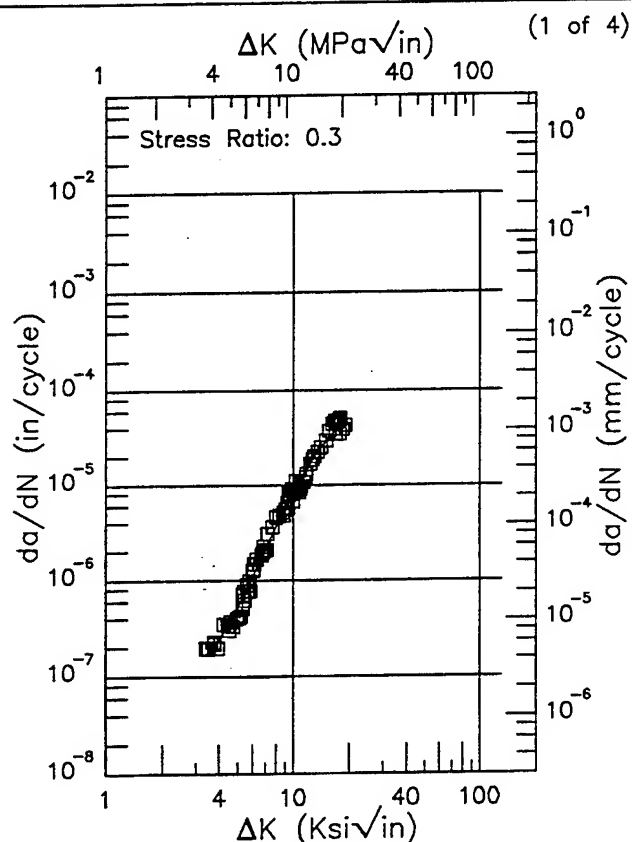


Figure 8.4.3.1.3

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R | 7010 |
 Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 1.4 in.
 Ref: UD002

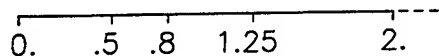


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.39 (min)	0.165
3.5	0.175
4.	0.244
5.	0.514
6.	1.07
7.	2.06
8.	3.64
9.	5.89
10.	8.82
13.	20.2
16.	34.1
18.83 (max)	51.5

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.70 (min)	0.199
3.	0.184
3.5	0.234
4.	0.370
5.	1.06
6.	2.59
7.	4.78
8.	6.98
9.	9.19
10.	11.8
13.	27.8
14.67 (max)	51.4

RMS %
 Error
 15.51

Life Prediction Ratio Summary



RMS %
 Error
 21.54

Life Prediction Ratio Summary

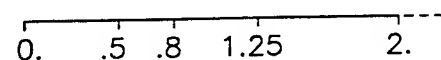


Figure 8.4.3.1.4

Condition/Ht: T73651
Form: 2 in. Plate
Specimen Type: CT
Orientation: L-T
Frequency: 10 Hz
Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
Ult. Strength: 73.7 ksi
Specimen Thk: 0.2 in.
Specimen Width: 1.4 in.
Ref: UD002

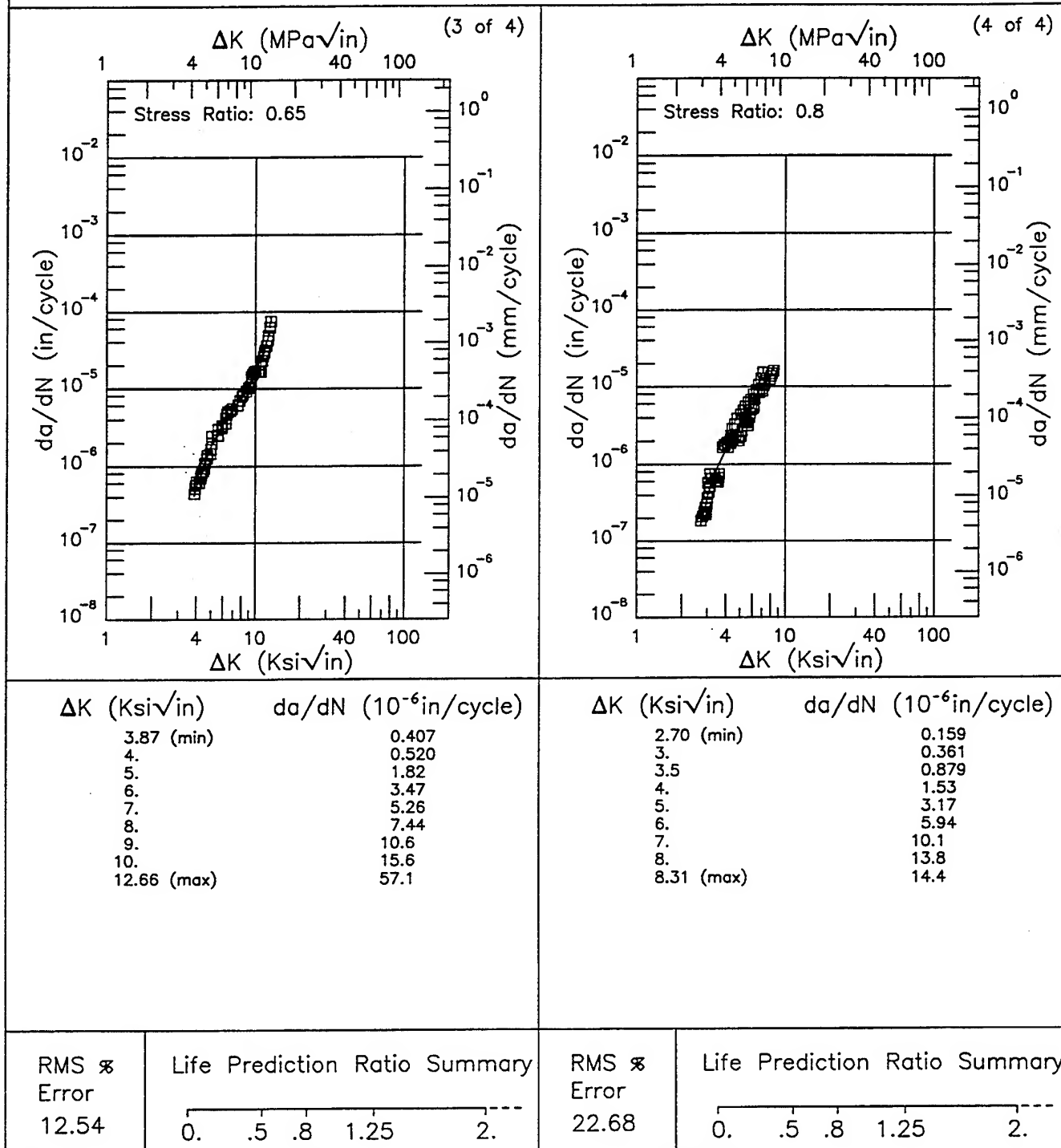
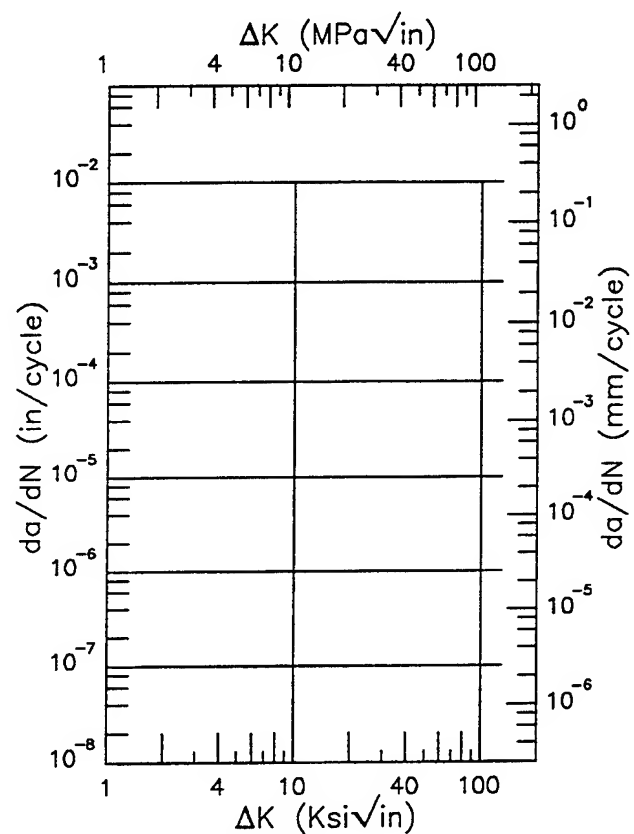
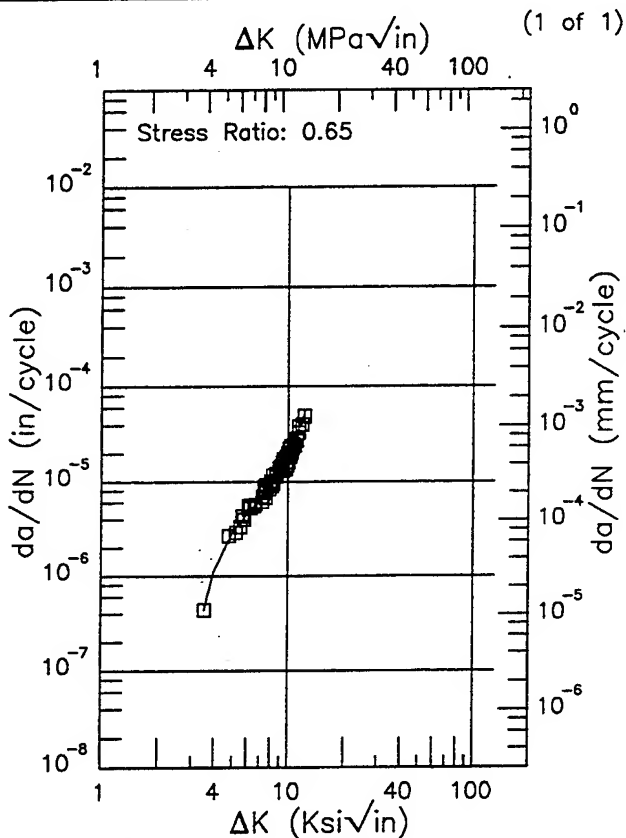


Figure 8.4.3.1.4 (Concluded)

R | 7010 |
 Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 64.4 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 1.4 in.
 Ref: UD002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.52 (min)	0.435
4.	1.12
5.	2.90
6.	4.47
7.	6.42
8.	9.29
9.	13.3
10.	18.6
12.20 (max)	50.7

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 10.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.4.3.1.5

Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-S
 Stress Ratio: 0.1

Yield Strength: 62.9 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.3 in.
 Specimen Width: 1.5 in.
 Ref: UD003

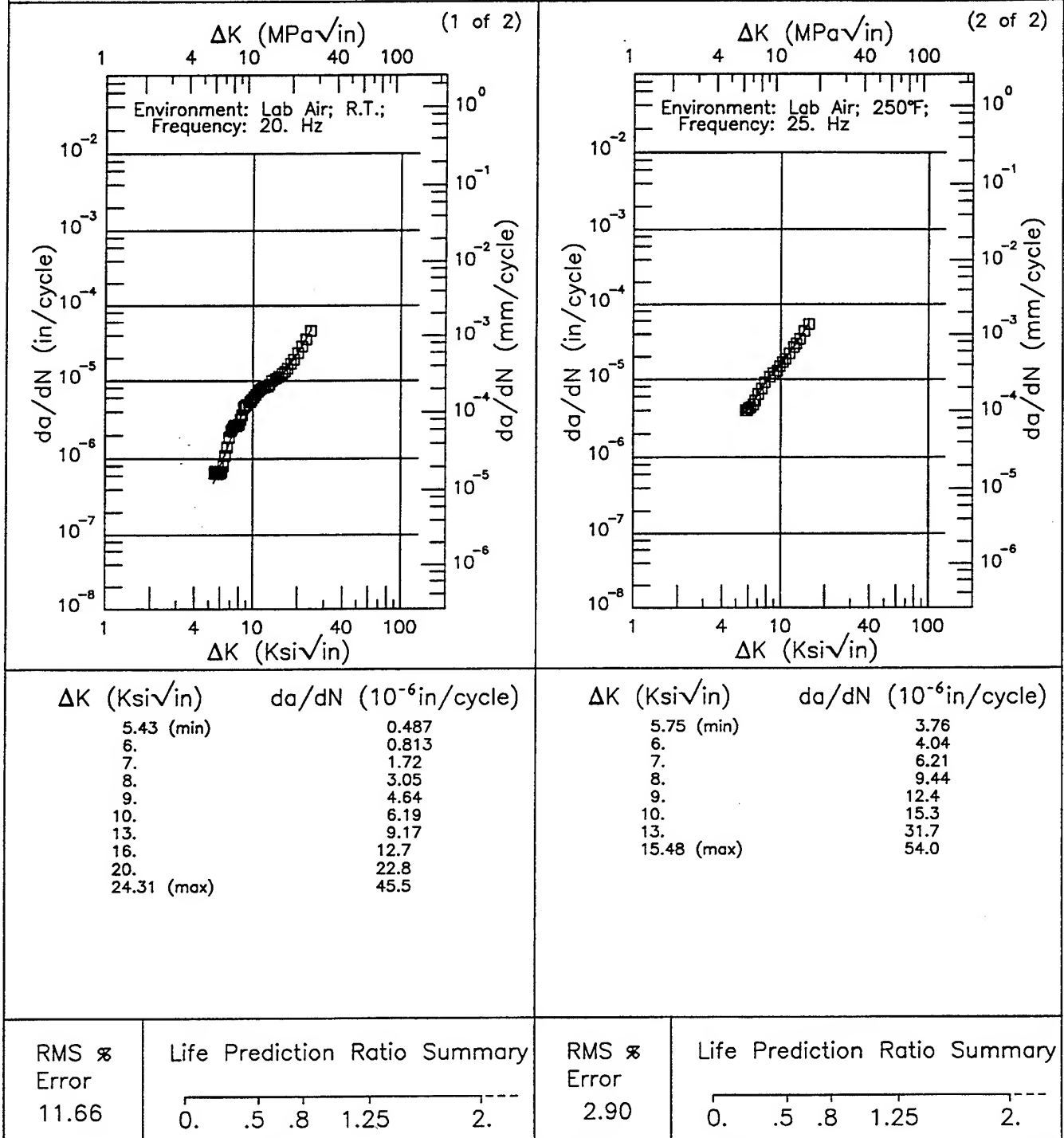
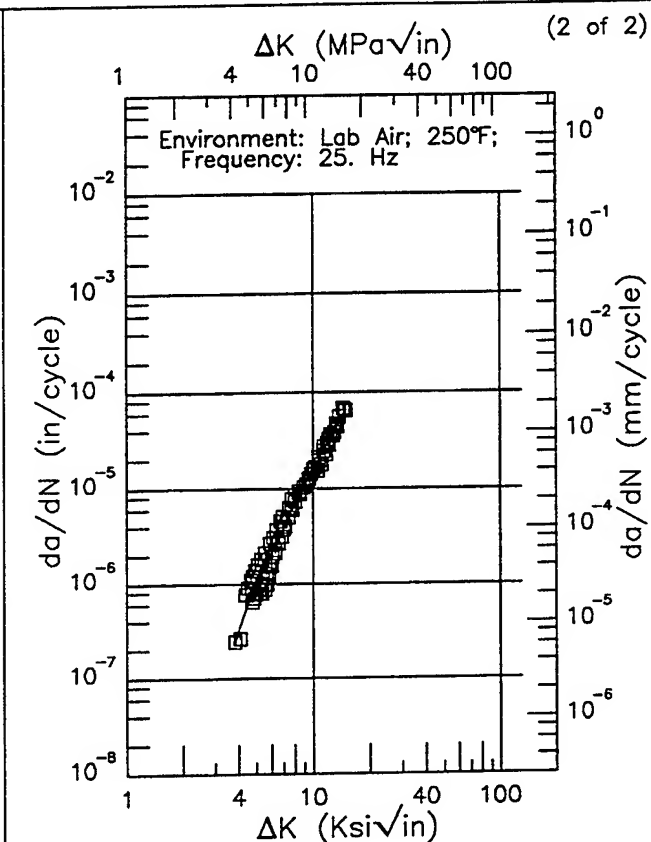
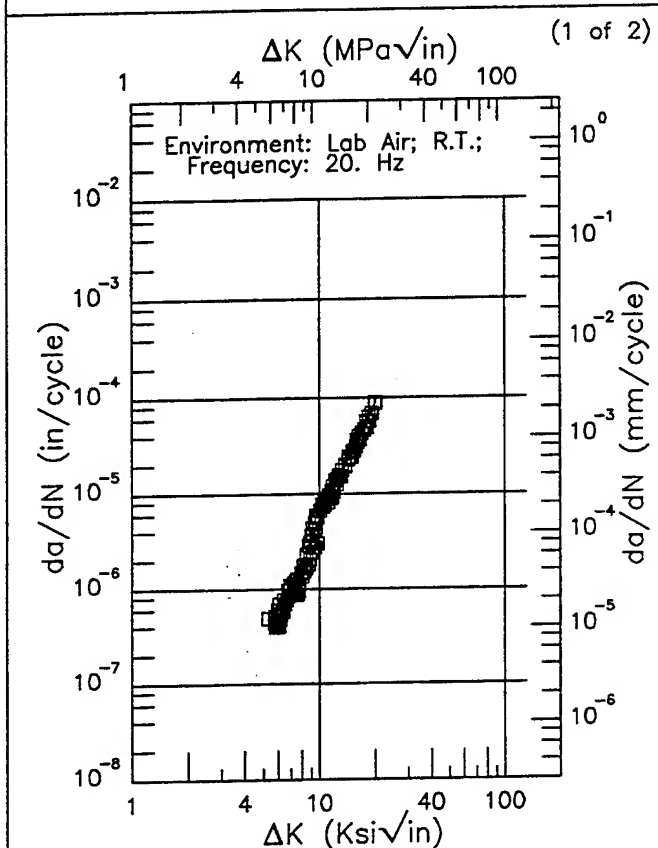


Figure 8.4.3.1.6

EF 7010

Condition/Ht: T73651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.1

Yield Strength: 62.9 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.3 in.
 Specimen Width: 1.5 in.
 Ref: UD003



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.31 (min)	0.474
6.	0.505
7.	0.832
8.	1.62
9.	3.12
10.	5.51
13.	16.4
16.	34.0
20.	88.2
20.03 (max)	88.9

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.83 (min)	0.230
4.	0.320
5.	1.06
6.	2.09
7.	3.91
8.	7.23
9.	11.7
10.	15.6
13.	41.7
14.89 (max)	65.5

RMS %
 Error
 15.63

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 24.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.4.3.1.7

TABLE 8.4.3.3

(1 of 1)

K_{Isc} SUMMARY FOR ALUMINUM ALLOY 7010

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Crack (in)	K _Q (Ksi√in)	K _{Isc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)						
T73651	P	R.T.	T-L	63.2	3.5% NaCl	DCB	3.75	1	2	---	34.9	59700	1980	BL001
						DCB	3.75	1	2	---	30.1	59700	1980	BL001
			S-L	65	3.5% NaCl	CT	1.5	0.75	2	---	17	165720	1980	UD003

7039

Condition/Ht: T64
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A₀:
 K_I_{scc}:
 Ref: 84284

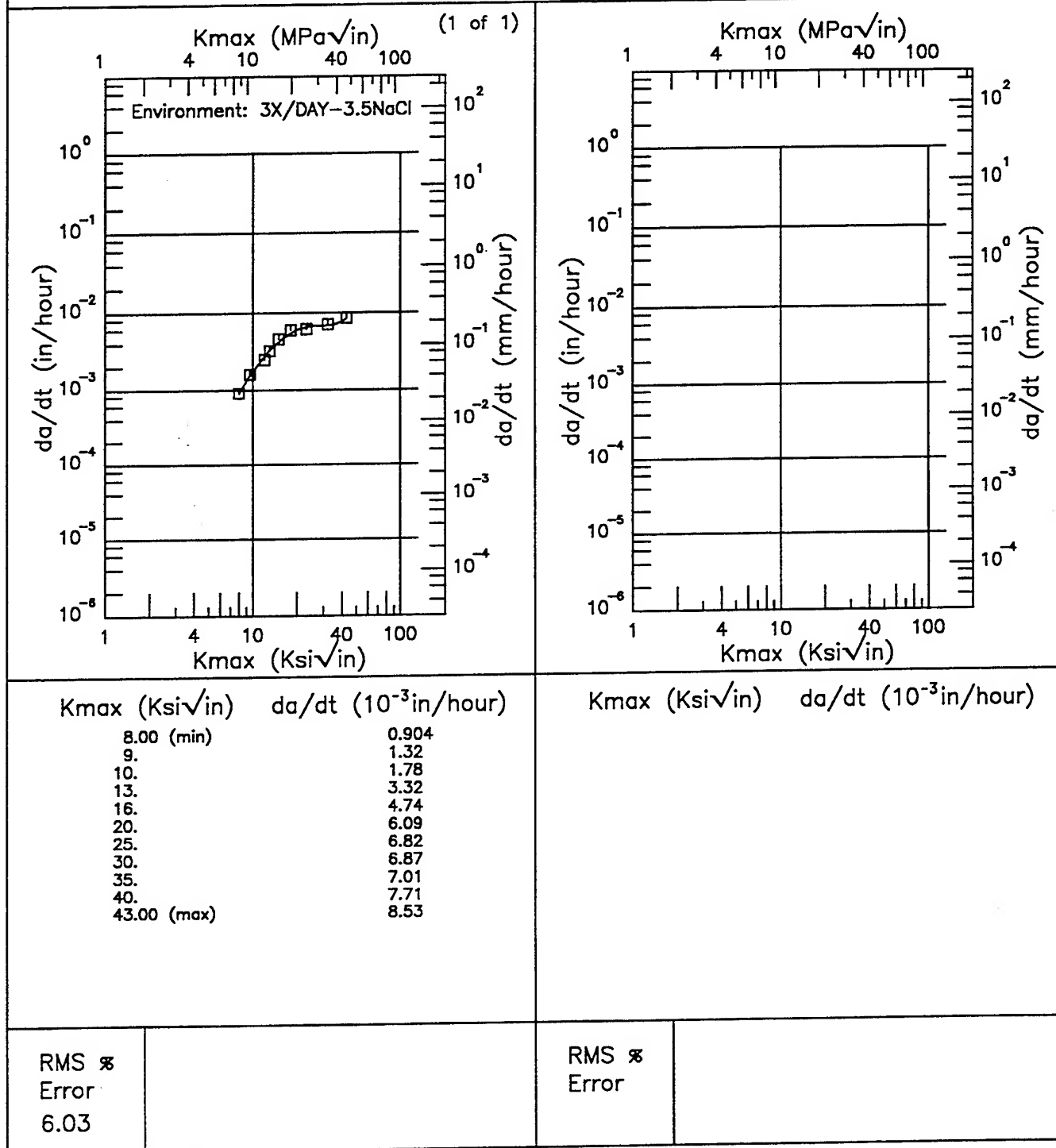


Figure 8.5.3.2

TABLE 8.6.1.1

**MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7049 AT ROOM TEMPERATURE**

Product Form	Condition/Heat Treatment	K_{Ic} (ksi√in)									
		Specimen Orientation									
		L-T			T-L			S-L			
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	
Plate	T7351	---	---	---	26.1	1.7	4	23.8	0.6	4	
	T73	30.8	3.	29	21.9	2.5	20	21.3	2.5	39	
Forging	T7352	38.2	1.	2	---	---	---	19.5	2.8	6	
	T73	28.1	0.7	3	25.2	0.5	3	---	---	---	
Extrusion	T73	33.2	2.7	3	22	0.5	3	---	---	---	
	T73511-HIGH PURITY	33.9	0.1	2	26.	0.1	2	---	---	---	
Extruded Bar	T73511-LOW PURITY	23.8	0.3	2	18.1	0.1	2	---	---	---	
	T73511-MEDIUM PURITY	29.7	0.8	2	22.1	0.5	2	---	---	---	
	T76	32.7	1.7	3	20	0.3	3	---	---	---	

TABLE 8.6.1.2.1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	-1	0.1			22.34	87.37		
		0.	1			52.67	244.42		
		0.	10			25.09	118.09	903.55	
		0.5	0.1		4.2	51.18	222.06		

TABLE 8.6.1.2.2

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: Dry Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73	FORGING	0.33	5.2			13.79		
								100.0

TABLE 8.6.1.2.3

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			15.13			
T73511-HIGH PURITY	EXTRUSION	0.1	30			14.63			
T73511-LOW PURITY	EXTRUSION	0.1	30			12.07			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			13.98			

TABLE 8.6.1.2.4

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	-1	10			3.56	45.21		
		0.	10			2.59	27.78		
		0.5	10		0.76	14.6	106.66		
T7352	FORGING	0.08	6			4.54	33.63		
		0.08	6		0.63	6.25			
		0.08	6			4.09	31.47		
		0.3	6		0.09	1.05			
		0.5	6		0.14	1.55			

TABLE 8.6.1.2.5

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511-HIGH PURITY	EXTRUSION	0.1	30			7.98			
T73511-LOW PURITY	EXTRUSION	0.1	30			7.11			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			3.41			

TABLE 8.6.1.2.6

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.08	0.1			27.19		
								100.0

TABLE 8.6.1.2.7

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73	FORGING	0.33	5.2			22.16	129.99	
								100.0

TABLE 8.6.1.2.8

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: Dry Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73	FORGING	0.33	18.3			24.82		100.0

TABLE 8.6.1.2.9

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73	FORGING	0.33	18.3			39.66		
								100.0

TABLE 8.6.1.2.10

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511-HIGH PURITY	EXTRUSION	0.1	30			7.66			
T73511-LOW PURITY	EXTRUSION	0.1	30			9.32			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			8.49			

TABLE 8.6.1.2.11

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7352	FORGING	0.08	1			12.98			

TABLE 8.6.1.2.12

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.33	5.2			34.56			
		0.33	18.3			30.25			

TABLE 8.6.1.2.13

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: S-T				ENVIRONMENT: Dry Air						
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)						
				ΔK Level (Ksi/in)						
				2.5	5.0	10.0	20.0	50.0	100.0	
T73	FORGING	0.33	18.3			6.45				

TABLE 8.6.1.2.14

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7049 AT ROOM TEMPERATURE

ORIENTATION: S-T ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73	FORGING	0.33	18.3			20.12		100.0

TABLE 8.6.2.1

ALUMINUM 7049 K_{Ic}																
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	$2.5 \cdot$ (K_{Ic}/\sqrt{B}) ² (in.)	K_{Ic}			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K_{Ic} (Ksi · √in.)	K_{Ic} MEAN	STAN DEV			
T73	Forging	2.00	R.T.	L-S	73.1	1.500	0.750	CT	0.780	0.53	33.60	---	---	1972	84368	
		6.00			55.3	2.000	0.998	CT	0.971	0.54	25.60			1973	86213	
		6.00			55.3	2.000	0.998	CT	1.003	0.64	28.00			1973	86213	
		6.00			58.4	2.000	1.001	CT	1.021	0.76	32.30			1973	86213	
		6.00			58.4	2.000	1.002	CT	0.993	0.90	35.10			1973	86213	
		5.00			60.1	2.000	1.000	CT	1.040	0.47	25.90			1972	84368	
		5.00			60.1	2.000	1.000	CT	1.060	0.52	27.40			1972	84368	
		3.00			65.0	2.000	1.000	CT	1.042	0.67	33.70			1973	86213	
		3.00			65.0	2.000	1.000	CT	1.011	0.56	30.70			1973	86213	
		3.00			65.4	2.000	0.998	CT	1.097	0.58	31.40			1973	86213	
		3.00			65.4	2.000	1.000	CT	1.100	0.57	31.40			1972	84368	
		3.00			65.4	2.000	0.998	CT	1.088	0.54	30.30			1973	86213	
		3.00		R.T.	L-T	65.4	2.000	1.000	CT	1.090	0.54	30.30	30.8	3.0	1972	84368
		2.00			65.5	1.500	0.750	CT	0.800	0.64	33.20			1972	84368	
		3.00			65.5	1.500	0.750	CT	0.790	0.69	34.30			1972	84368	
T73	Forging	1.00			67.0	1.000	0.500	CT	0.470	0.45	28.30			1972	84368	
		2.00			67.0	1.000	0.500	CT	0.480	0.46	28.70			1972	84368	
		1.75			67.0	1.000	0.498	CT	0.480	0.46	28.70			1973	86213	
		1.75			67.0	1.000	0.498	CT	0.472	0.45	28.30			1973	86213	
		...			68.0	3.500	0.996	CT	1.802	0.43	28.20			1972	84306	
		2.00			68.8	2.000	1.000	CT	1.036	0.42	28.30			1973	86213	
		7.10			70.6	2.000	0.998	CT	1.049	0.40	28.20			1973	86213	
		4.00			72.8	1.990	0.998	CT	1.090	0.47	31.50			1973	86213	

TABLE 8.6.2.1 (CONTINUED)

2 of 11

7049

ALUMINUM 7049 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	4.00	R.T. Cont'd	L-T Cont'd	72.8	2.000	1.000	CT	1.080	0.55	34.20	Cont'd	Cont'd	1972	84368
		4.00			72.8	1.990	0.998	CT	1.084	0.55	34.20			1973	86213
		4.00			72.8	2.000	1.000	CT	1.090	0.47	31.50			1972	84368
		7.00			73.4	2.000	1.000	CT	1.095	0.58	35.40			1973	86213
		1.00			74.4	1.000	0.500	CT	0.480	0.42	30.60			1972	84368
		2.00			74.4	1.000	0.500	CT	0.490	0.43	30.80			1972	84368
		2.00			75.9	1.500	0.750	CT	0.830	0.60	37.20			1972	84368
		6.00			55.5	2.000	1.000	CT	0.987	0.29	18.90			1973	86213
		6.00			55.5	2.000	1.000	CT	0.994	0.29	18.80			1973	86213
		6.00			57.8	2.000	1.001	CT	1.023	0.44	24.20			1973	86213
		6.00			57.8	2.000	1.002	CT	1.016	0.40	23.00			1973	86213
		5.00			58.1	2.000	1.000	CT	1.050	0.25	18.40			1972	84368
T73	Forging	3.00	R.T.	T-L	62.2	2.000	1.000	CT	1.023	0.44	26.20	21.9	2.5	1973	86213
		3.00			62.2	2.000	1.000	CT	1.027	0.50	27.90			1973	86213
		3.00			63.9	2.000	0.999	CT	1.085	0.25	20.40			1973	86213
		3.00			63.9	2.000	1.000	CT	0.997	0.28	21.20			1973	86213
		3.00			66.2	1.990	0.998	CT	1.101	0.31	23.40			1973	86213
		3.00			66.2	2.000	0.998	CT	1.106	0.30	23.00			1973	86213
		3.00			66.2	2.000	1.000	CT	1.110	0.30	23.00			1972	84368
		3.00			66.2	2.000	1.000	CT	1.100	0.31	23.40			1972	84368
		2.00			67.0	2.000	0.999	CT	1.016	0.19	18.70			1973	86213
		4.00			68.5	2.000	0.998	CT	1.062	0.25	21.70			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{IC}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{IC} /TS) ¹ (in.)	K _{IC}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{IC} • (Ksi • √in.)	K _{IC} MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	4.00	R.T. Cont'd	T-L Cont'd	68.5	2.000	0.998	CT	1.091	0.22	20.20	Cont'd	Cont'd	1973	86213
		4.00			68.5	2.000	1.000	CT	1.060	0.25	21.70			1972	84368
		4.00			68.5	2.000	1.000	CT	1.090	0.22	20.20			1972	84368
		7.10			70.6	2.000	0.999	CT	1.093	0.26	22.60			1973	86213
		7.00			73.4	2.000	0.998	CT	1.104	0.20	20.70			1973	86213
		6.00			55.1	2.000	1.000	CT	1.025	0.22	16.20			1973	86213
T73	Forging	6.00	R.T.	S-L	55.1	2.000	0.999	CT	1.021	0.22	16.30	21.3	2.5	1973	86213
		6.00			56.9	2.000	1.000	CT	1.035	0.36	21.70			1973	86213
		6.00			56.9	2.000	1.000	CT	1.043	0.40	22.70			1973	86213
		5.00			59.1	2.000	1.000	CT	1.050	0.28	19.80			1972	84368
		5.00			59.1	2.000	1.000	CT	1.050	0.28	19.70			1972	84368
		3.00			59.8	2.000	1.001	CT	1.008	0.20	17.10			1973	86213
		1.00			61.8	1.000	0.500	CT	0.500	0.37	24.00			1972	84368
		1.00			61.8	1.000	0.500	CT	0.510	0.36	23.70			1972	84368
		3.00			62.3	2.000	1.000	CT	1.060	0.33	22.70			1972	84368
		3.00			62.3	2.000	0.996	CT	1.065	0.33	22.70			1973	86213
		3.00			62.3	2.000	1.000	CT	1.060	0.32	22.30			1972	84368
		3.00			62.3	2.000	0.998	CT	1.059	0.32	22.30			1973	86213
		3.00			64.5	2.000	1.000	CT	1.065	0.31	22.80			1973	86213
		3.00			64.5	2.000	0.999	CT	1.062	0.36	24.60			1973	86213
		3.00			64.7	1.500	0.750	CT	0.770	0.32	23.00			1972	84368
		3.00			64.7	1.500	0.750	CT	0.770	0.41	26.20			1972	84368

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	R.T. Cont'd	S-L Cont'd	64.9	1.500	0.750	CT	0.820	0.38	25.40	Cont'd	Cont'd	1972	84368	
				64.9	1.500	0.750	CT	0.810	0.37	25.10			1972	84368	
				65.4	2.000	0.999	CT	1.052	0.14	15.60			1973	86213	
				65.4	2.000	0.998	CT	1.089	0.18	17.60			1973	86213	
				66.1	1.000	0.498	CT	0.486	0.21	19.10			1973	86213	
				66.1	1.000	0.500	CT	0.490	0.21	19.10			1972	84368	
				66.1	1.000	0.500	CT	0.520	0.22	19.60			1972	84368	
				66.1	1.000	0.498	CT	0.520	0.22	19.60			1973	86213	
				66.3	1.500	0.750	CT	0.790	0.27	22.40			1972	84368	
				66.3	1.500	0.750	CT	0.790	0.26	21.80			1972	84368	
				67.1	1.000	0.500	CT	0.460	0.31	23.50			1972	84368	
				67.1	1.000	0.500	CT	0.480	0.27	21.90			1972	84368	
				67.5	2.000	1.000	CT	1.060	0.24	20.80			1972	84368	
				67.5	2.000	0.998	CT	1.058	0.24	20.80			1973	86213	
				67.5	2.000	1.000	CT	1.060	0.24	20.70			1972	84368	
				67.5	2.000	0.998	CT	1.054	0.24	20.70			1973	86213	
				67.6	1.500	0.750	CT	0.800	0.29	23.10			1972	84368	
				67.6	1.500	0.750	CT	0.800	0.30	23.40			1972	84368	
				68.9	1.000	0.500	CT	0.500	0.22	20.50			1972	84368	
				68.9	1.000	0.500	CT	0.500	0.24	21.20			1972	83242	
				68.9	1.000	0.500	CT	0.500	0.22	20.50			1972	83242	
				68.9	1.000	0.500	CT	0.500	0.24	21.20			1972	83242	

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi * √(in.))	K _{1c} MEAN	STAN DEV		
T73	Forging	5.00	82	L-T	60.1	2.000	1.000	CT	1.039	0.46	25.90	30.8	4.0	1973	86213
		5.00			60.1	2.000	1.000	CT	1.062	0.52	27.40			1973	86213
		5.00			60.6	1.990	1.000	CT	0.995	0.80	34.30			1973	86213
		2.70			65.5	1.500	0.747	CT	0.802	0.64	33.20			1973	86213
		2.70			65.5	1.500	0.747	CT	0.795	0.69	34.30			1973	86213
		4.20			65.7	1.500	0.748	CT	0.793	0.49	29.10			1973	86213
		4.20			65.7	1.500	0.748	CT	0.785	0.49	29.20			1973	86213
		2.00			68.8	2.000	1.000	CT	1.081	0.29	23.50			1973	86213
		2.50			73.1	1.500	0.749	CT	0.782	0.53	33.60			1973	86213
		1.50			74.4	1.000	0.499	CT	0.481	0.42	30.60			1973	86213
		1.50			74.4	0.990	0.499	CT	0.491	0.43	30.80			1973	86213
		2.50			75.9	1.500	0.750	CT	0.832	0.60	37.20			1973	86213
T73	Forging	5.00	82	T-L	58.1	2.000	1.000	CT	1.047	0.25	18.40	23.5	4.0	1973	86213
		5.00			61.3	1.990	1.000	CT	0.945	0.49	27.10			1973	86213
		5.00			61.3	1.990	1.000	CT	0.950	0.52	28.00			1973	86213
		2.00			67.0	2.000	1.000	CT	1.082	0.27	22.00			1973	86213
		2.00			67.0	2.000	0.999	CT	1.075	0.27	21.90			1973	86213
		5.00			59.1	2.000	1.000	CT	1.051	0.28	19.80			1973	86213
T73	Forging	5.00	82	S-L	59.1	2.000	1.000	CT	1.048	0.28	19.70	21.6	3.0	1973	86213
		5.00			60.1	1.990	1.000	CT	0.956	0.23	18.20			1973	86213
		5.00			60.1	1.990	1.000	CT	0.980	0.22	17.90			1973	86213
		1.00			62.6	1.000	0.501	CT	0.513	0.36	23.70			1973	86213
		1.00			62.6	1.000	0.499	CT	0.499	0.37	24.00			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /√Ys) ^a (in.)	K _{1c}		DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) • √(in.)	K _{1c} MEAN			STAN DEV
T73 Cont'd	Forging Cont'd	2.70	82 Cont'd	S-L Cont'd	64.7	1.500	0.748	CT	0.774	0.32	23.00	Cont'd	Cont'd	1973	86213
		2.70			64.7	1.500	0.748	CT	0.773	0.41	26.20			1973	86213
		2.50			64.9	1.500	0.748	CT	0.820	0.38	25.40			1973	86213
		2.50			64.9	1.500	0.748	CT	0.813	0.37	25.10			1973	86213
		2.00			65.4	1.620	0.751	CT	0.779	0.13	15.00			1973	86213
		1.50			67.1	0.990	0.498	CT	0.480	0.27	21.90			1973	86213
		1.50			67.1	0.990	0.499	CT	0.464	0.31	23.50			1973	86213
		1.50			67.6	1.500	0.750	CT	0.798	0.29	23.10			1973	86213
		1.50			67.6	1.500	0.750	CT	0.799	0.30	23.40			1973	86213
		2.50			67.8	1.500	0.751	CT	0.794	0.26	21.80			1973	86213
		2.50			67.8	1.500	0.749	CT	0.789	0.27	22.40			1973	86213
		4.20			69.7	1.500	0.748	CT	0.794	0.18	18.70			1973	86213
T73	Forging	4.20	84	L-T	69.7	1.500	0.747	CT	0.782	0.17	18.40	32.1	2.1	1973	86213
		6.00			59.5	2.000	1.000	CT	1.010	0.66	30.60			1973	86213
		6.00			59.5	2.000	1.000	CT	1.015	0.79	33.60			1973	86213
		6.00			57.6	2.000	1.000	CT	1.013	0.36	22.00			1973	86213
T73	Forging	6.00	84	T-L	57.6	2.000	1.000	CT	0.988	0.31	20.30	21.2	1.2	1973	86213
		6.00			58.7	2.000	1.000	CT	1.024	0.28	19.70			1973	86213
T73	Forging	6.00	84	S-L	58.7	2.000	1.000	CT	1.028	0.28	19.60	21.7	1.7	1973	86213
		0.75			68.2	1.000	0.500	CT	0.516	0.30	23.60			1973	86213
		0.75			68.2	1.000	0.500	CT	0.515	0.29	23.20			1973	86213
		0.75			71.5	1.000	0.494	CT	0.539	0.25	22.60			1973	86213
		0.75			71.5	1.000	0.475	CT	0.535	0.22	21.30			1973	86213
		0.75			71.5	1.000	0.475	CT	0.535	0.22	21.30			1973	86213

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{ITYS}) ² (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{Ic} (Ksi • √in.)	K _{Ic} MEAN	STAN DEV		
T73	Forging	1.00	86	L-S	74.9	2.000	0.998	CT	1.059	0.36	28.50	---	---	1973	86213
T73	Extrusion	3.00	-65	L-T	78.9	2.000	1.000	CT	1.000	0.22	23.60	24.7	1.0	1972	83061
		3.00			78.9	2.000	1.000	CT	1.000	0.26	25.40			1972	83061
		3.00			78.9	2.000	1.000	CT	1.000	0.26	25.20			1972	83061
		3.00			77.5	2.000	1.000	CT	1.000	0.22	22.80			1972	83061
T73	Extrusion	3.00	-65	T-L	77.5	2.000	1.000	CT	1.000	0.23	23.70	23.3	0.6	1972	83061
		3.00			77.5	2.000	1.000	CT	1.000	0.23	23.70			1972	83061
		3.00			72.7	---	---	CT	---	0.21	21.10			1972	83061
		3.00			72.7	---	---	CT	---	0.26	23.30			1972	83061
T73	Extrusion	3.00	0	L-T	76.8	2.000	1.000	CT	1.000	0.25	24.50	25.9	1.2	1972	83061
		3.00			76.8	2.000	1.000	CT	1.000	0.30	26.80			1972	83061
		3.00			76.8	2.000	1.000	CT	1.000	0.29	26.30			1972	83061
		3.00			76.3	2.000	1.000	CT	1.000	0.27	24.90			1972	83061
T73	Extrusion	3.00	0	T-L	76.3	2.000	1.000	CT	1.000	0.24	23.80	24.1	0.7	1972	83061
		3.00			76.3	2.000	1.000	CT	1.000	0.24	23.60			1972	83061
		3.00			71.2	---	---	CT	---	0.19	19.80			1972	83061
		3.00			71.2	---	---	CT	---	0.25	22.60			1972	83061
T73	Extrusion	3.00	R.T.	L-T	74.8	2.000	1.000	CT	1.000	0.33	27.30	28.1	0.7	1972	83061
		3.00			74.8	2.000	1.000	CT	1.000	0.36	28.30			1972	83061
		3.00			74.8	2.000	1.000	CT	1.000	0.36	28.60			1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.29	26.70			1972	83061
T73	Extrusion	3.00	R.T.	T-L	75.0	2.000	1.000	CT	1.000	0.28	25.30	25.2	0.5	1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.28	25.30			1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.27	24.70			1972	83061
		3.00			75.0	2.000	1.000	CT	1.000	0.27	24.70			1972	83061

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{IC}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{IC} /TYS) ^a (in.)	K _{IC}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{IC} (Ksi • √in.)	K _{IC} MEAN	STAN DEV		
T73	Extrusion	3.00	R.T.	S-T	68.6	---	---	CT	---	0.21	20.10	20.3	0.2	1972	83061
		3.00				---	---	CT	---	0.22	20.50			1972	83061
		3.00				---	---	CT	---	0.22	20.30			1972	83061
T73	Extruded Bar	3.50	-65	L-T	71.7	2.000	1.000	CT	1.000	0.52	32.60	31.4	1.7	1972	83061
		3.50				2.000	1.000	CT	1.000	0.42	29.40			1972	83061
		3.50				2.000	1.000	CT	1.000	0.51	32.20			1972	83061
T73	Extruded Bar	3.50	-65	T-L	70.3	2.000	1.000	CT	1.000	0.21	20.20	20.0	1.0	1972	83061
		3.50				2.000	1.000	CT	1.000	0.22	20.80			1972	83061
		3.50				2.000	1.000	CT	1.000	0.18	18.90			1972	83061
T73	Extruded Bar	3.50	-65	S-T	67.2	2.000	1.000	CT	1.000	0.24	20.70	---	---	1972	83061
T73	Extruded Bar	3.50	0	L-T	77.3	2.000	1.000	CT	1.000	0.50	34.70	34.2	0.5	1972	83061
		3.50				2.000	1.000	CT	1.000	0.48	33.80			1972	83061
		3.50				2.000	1.000	CT	1.000	0.49	34.20			1972	83061
T73	Extruded Bar	3.50	0	T-L	69.6	2.000	1.000	CT	1.000	0.22	20.60	20.6	0.3	1972	83061
		3.50				2.000	1.000	CT	1.000	0.22	20.40			1972	83061
		3.50				2.000	1.000	CT	1.000	0.23	20.90			1972	83061
T73	Extruded Bar	3.50	0	S-T	66.5	2.000	1.000	CT	1.000	0.27	21.80	21.5	0.4	1972	83061
		3.50				2.000	1.000	CT	1.000	0.25	21.00			1972	83061
		3.50				2.000	1.000	CT	1.000	0.26	21.60			1972	83061
T73	Extruded Bar	3.50	R.T.	L-T	73.4	2.000	1.000	CT	1.000	0.57	35.10	33.2	2.7	1972	83061
		3.50				2.000	1.000	CT	1.000	0.42	30.10			1972	83061
		3.25				2.000	1.000	CT	1.000	0.55	34.40			1972	83061

TABLE 8.6.2.1 (CONTINUED)

ALUMINUM 7049 K _{IC}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Kcal)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{IC} /TYS) ^a (in.)	K _{IC}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{IC} (Kcal • √in.)	K _{IC} MEAN	STAN DEV		
T73	Extruded Bar	3.50	R.T.	T-L	67.7	2.000	1.000	CT	1.000	0.25	21.50	22.0	0.5	1972	83061
		3.50			67.7	2.000	1.000	CT	1.000	0.27	22.40			1972	83061
		3.50			67.7	2.000	1.000	CT	1.000	0.27	22.10			1972	83061
T73	Extruded Bar	3.50	R.T.	S-T	65.4	2.000	1.000	CT	1.000	0.30	22.50	23.0	0.7	1972	83061
		3.50			65.4	2.000	1.000	CT	1.000	0.30	22.60			1972	83061
		3.50			65.4	2.000	1.000	CT	1.000	0.33	23.80			1972	83061
T7351	Plate	4.00	R.T.	T-L	53.6	1.500	0.750	CT	0.722	0.51	24.10	26.1	1.7	1973	86213
		4.00			53.6	1.490	0.748	CT	0.725	0.56	25.40			1973	86213
		2.00			59.4	1.500	0.750	CT	0.750	0.52	27.20			1973	86213
		2.00			59.4	1.500	0.748	CT	0.751	0.55	27.80			1973	86213
T7351	Plate	4.00	R.T.	S-L	49.3	1.490	0.750	CT	0.700	0.55	23.20	23.8	0.6	1973	86213
		4.00			49.3	1.500	0.750	CT	0.730	0.59	24.00			1973	86213
		2.00			57.6	1.490	0.750	CT	0.715	0.42	23.50			1973	86213
		2.00			57.6	1.490	0.750	CT	0.704	0.45	24.50			1973	86213
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	L-T	76.7	2.500	1.250	CT	...	0.49	34.00	33.9	0.1	1980	WA001
1.50	76.7	2.500			1.250	CT	...	0.49	33.80	1980	WA001				
T73511-HIGH/ PURITY	Extruded Bar	1.50	R.T.	T-L	70.3	2.500	1.250	CT	...	0.34	26.00	26.0	0.1	1980	WA001
1.50	70.3	2.500			1.250	CT	...	0.34	25.90	1980	WA001				
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	L-T	73.1	2.500	1.250	CT	...	0.27	24.00	23.8	0.3	1980	WA001
1.50	73.1	2.500			1.250	CT	...	0.26	23.60	1980	WA001				

TABLE 8.6.2.1 (CONTINUED)

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ALUMINUM 7049 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{Ic} /TS) ^a (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{Ic} (Ksi • √in.)	K _{Ic} MEAN	STAN DEV		
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	T-L	68.6	2.500	1.250	CT	---	0.18	18.20	18.1	0.1	1980	WA001
		1.50				2.500	1.250	CT	---	0.17	18.00			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	L-T	75.4	2.500	1.250	CT	---	0.40	30.30	29.7	0.8	1980	WA001
		1.50				2.500	1.250	CT	---	0.37	29.10			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	T-L	69.2	2.500	1.250	CT	---	0.25	21.70	22.1	0.5	1980	WA001
		1.50				2.500	1.250	CT	---	0.25	22.40			1980	WA001
T7352	Forging	7.10	R.T.	L-T	65.0	3.990	1.998	CT	1.882	0.83	37.50	38.2	1.0	1973	85836
		7.10				3.990	1.997	CT	1.900	0.90	38.90			1973	85836
T7352	Forging	6.00	R.T.	S-L	50.5	2.000	0.999	CT	0.931	0.36	19.10	19.5	2.8	1973	86213
		6.00				2.000	0.999	CT	0.954	0.24	15.50			1973	86213
		3.00				2.000	0.999	CT	1.003	0.22	17.30			1973	86213
		7.10				2.500	1.252	CT	1.292	0.36	23.40			1973	85836
		3.00				2.000	1.000	CT	1.065	0.29	21.90			1973	86213
		3.00				2.000	1.000	CT	1.039	0.24	19.70			1973	86213
		3.50				2.000	1.000	CT	1.000	0.36	30.30			1972	83061
		3.50				2.000	1.000	CT	1.000	0.36	30.30			1972	83061
T76	Extruded Bar	3.50	-65	L-T	80.0	2.000	1.000	CT	1.000	0.36	30.50	30.4	0.1	1972	83061
		3.50				2.000	1.000	CT	1.000	0.36	30.50			1972	83061
T76	Extruded Bar	3.50	-65	T-L	72.9	2.000	1.000	CT	1.000	0.17	19.00	19.2	0.2	1972	83061
		3.50				2.000	1.000	CT	1.000	0.18	19.30			1972	83061

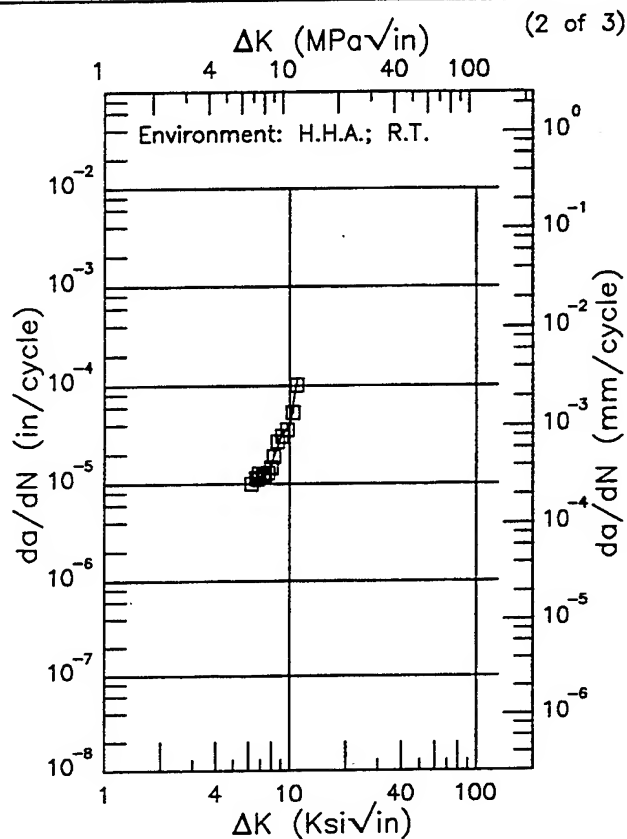
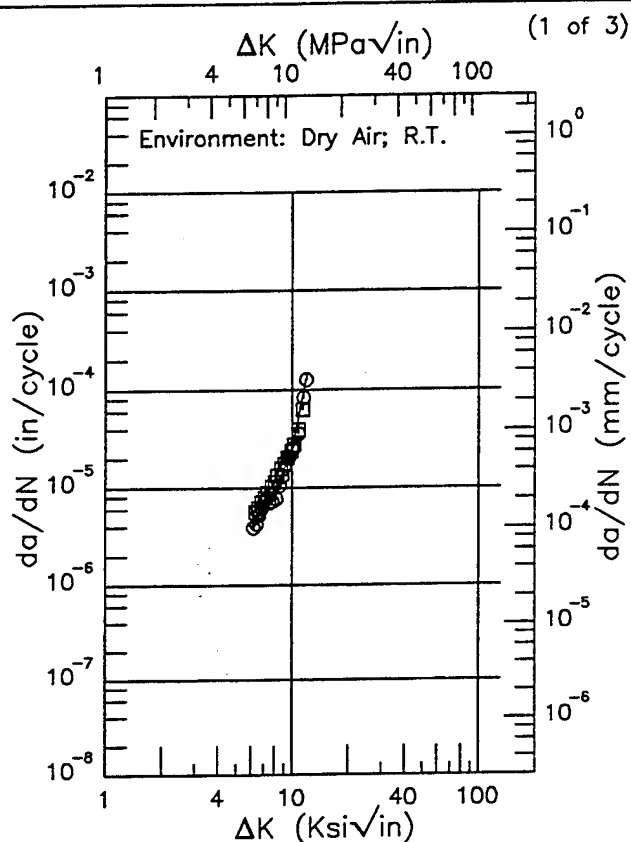
TABLE 8.6.2.1 (CONCLUDED)

ALUMINUM 7049 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T76	Extruded Bar	3.50	-65	S-T	67.5	2.000	1.000	CT	1.000	0.21	19.10	19.4	0.4	1972	83061
		3.50			67.5	2.000	1.000	CT	1.000	0.22	19.90			1972	83061
		3.50			67.5	2.000	1.000	CT	1.000	0.21	19.30			1972	83061
T76	Extruded Bar	3.50	0	L-T	77.1	2.000	1.000	CT	1.000	0.49	34.10	33.1	0.9	1972	83061
		3.50			77.1	2.000	1.000	CT	1.000	0.45	32.90			1972	83061
		3.50			77.1	2.000	1.000	CT	1.000	0.44	32.30			1972	83061
T76	Extruded Bar	3.50	0	T-L	70.6	2.000	1.000	CT	1.000	0.22	20.80	20.2	0.8	1972	83061
		3.50			70.6	2.000	1.000	CT	1.000	0.19	19.60			1972	83061
		3.50			66.6	2.000	1.000	CT	1.000	0.25	21.20			1972	83061
T76	Extruded Bar	3.50	0	S-T	66.6	2.000	1.000	CT	1.000	0.24	20.70	20.8	0.4	1972	83061
		3.50			66.6	2.000	1.000	CT	1.000	0.24	20.50			1972	83061
		3.25			75.5	2.000	1.000	CT	1.000	0.51	34.20			1972	83061
T76	Extruded Bar	3.50	R.T.	L-T	75.5	2.000	1.000	CT	1.000	0.42	30.80	32.7	1.7	1972	83061
		3.50			75.5	2.000	1.000	CT	1.000	0.48	33.10			1972	83061
		3.50			68.6	2.000	1.000	CT	1.000	0.21	20.00			1972	83061
T76	Extruded Bar	3.50	R.T.	T-L	68.6	2.000	1.000	CT	1.000	0.21	19.70	20.0	0.3	1972	83061
		3.50			68.6	2.000	1.000	CT	1.000	0.22	20.30			1972	83061
		3.50			65.8	2.000	1.000	CT	1.000	0.25	20.90			1972	83061
T76	Extruded Bar	3.50	R.T.	S-T	65.8	2.000	1.000	CT	1.000	0.25	20.90	...	---	1972	83061

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E | 7049 |
 Condition/Ht: T73
 Form: 4 - 5 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 58.1 - 68.5 ksi
 Ult. Strength: 68.4 - 76.4 ksi
 Specimen Thk: 1.495 - 1.502 in.
 Specimen Width: 3.8 in.
 Ref: 86842



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.17 (min)	3.84
7.	7.02
8.	9.61
9.	15.7
10.	24.8
11.88 (max)	130.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.21 (min)	9.93
7.	11.9
8.	16.1
9.	30.4
10.	39.7
10.89 (max)	104.

RMS \times
 Error
 14.70

Life Prediction Ratio Summary
 ○ □
 0. .5 .8 1.25 2. ---

RMS \times
 Error
 7.78

Life Prediction Ratio Summary
 □
 0. .5 .8 1.25 2. ---

Figure 8.6.3.1.1

Condition/Ht: T73
 Form: 4 - 5 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 58.1 - 68.5 ksi
 Ult. Strength: 68.4 - 76.4 ksi
 Specimen Thk: 1.495 - 1.502 in.
 Specimen Width: 3.8 in.
 Ref: 86842

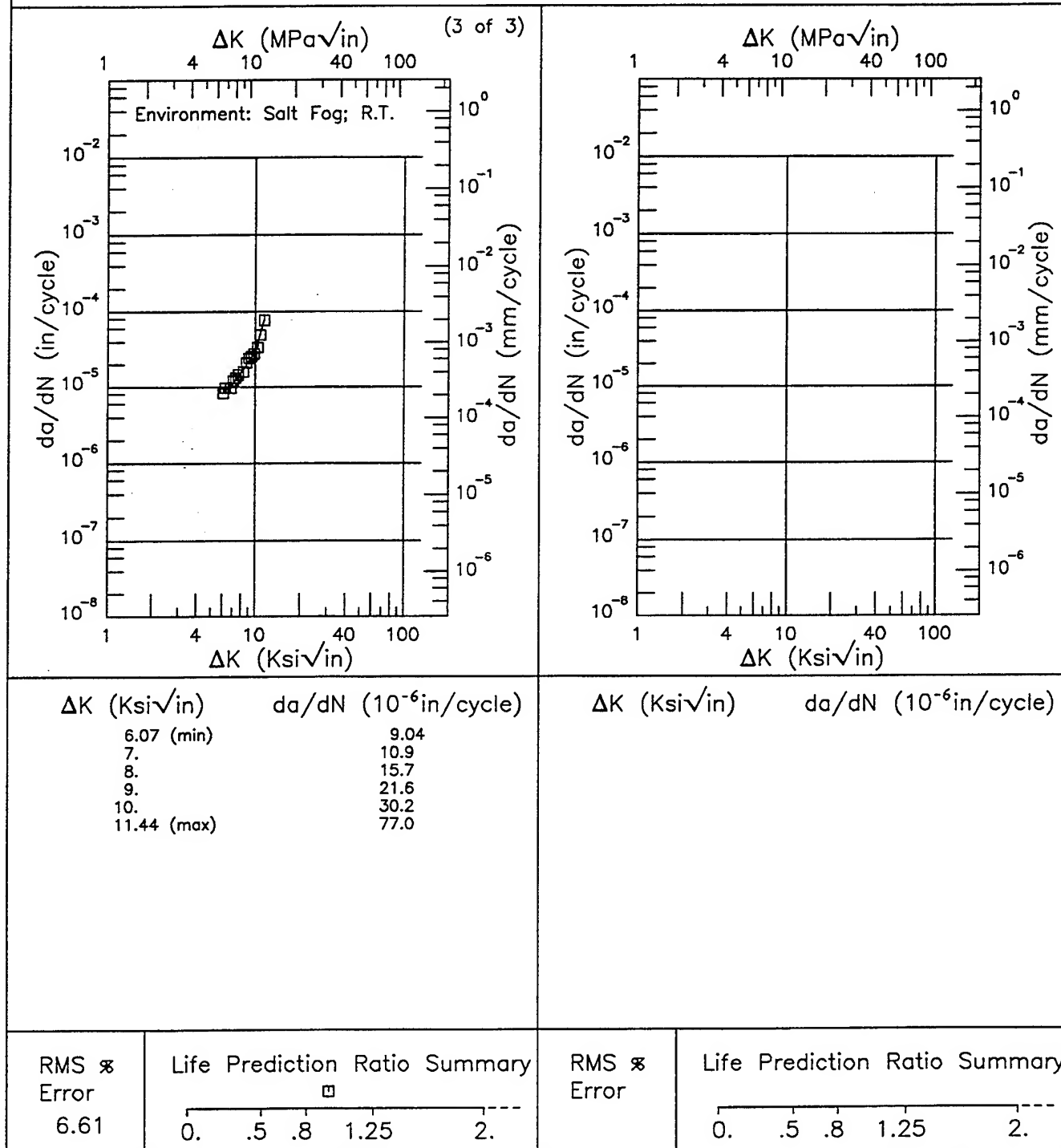
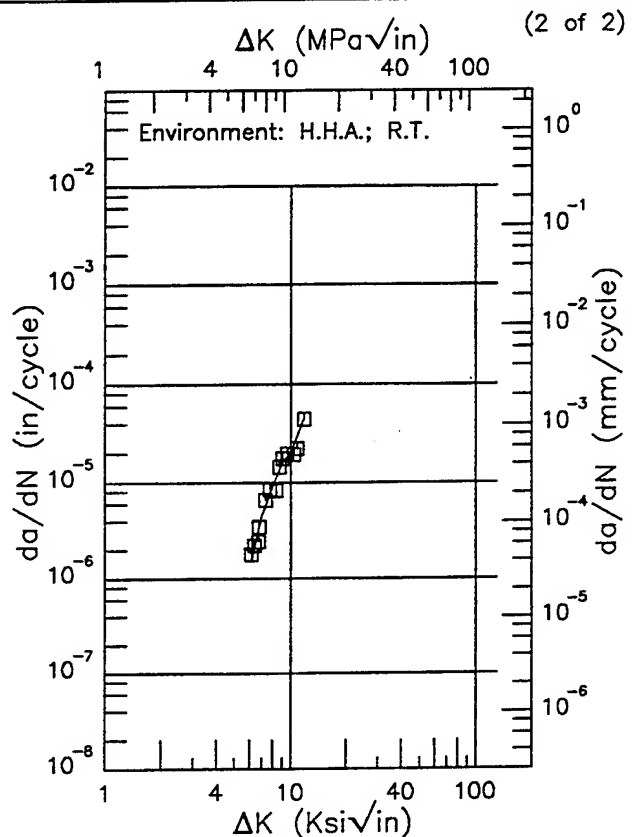
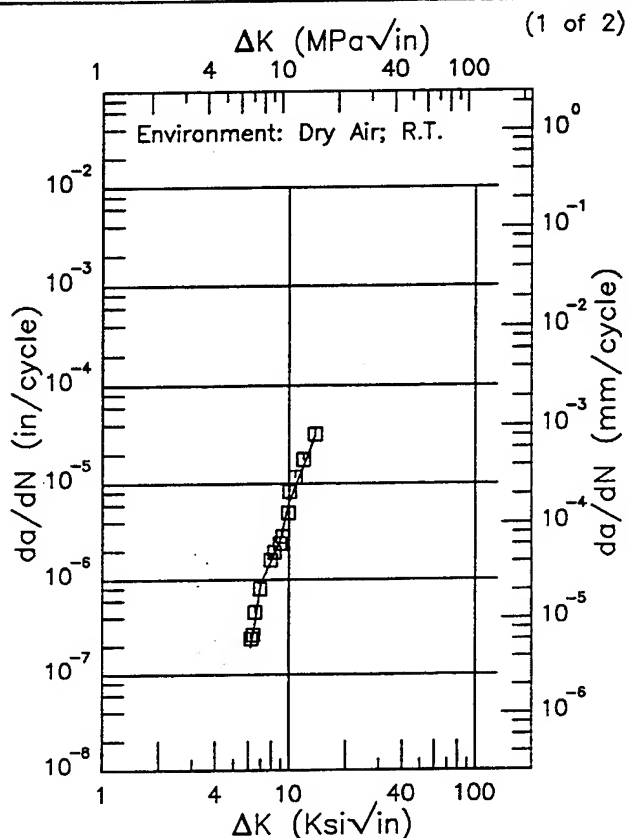


Figure 8.6.3.1.1 (Concluded)

E 7049
 Condition/Ht: T73
 Form: 5 in. Forging
 Specimen Type: CT
 Orientation: S-T
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 59.1 ksi
 Ult. Strength: 68.1 ksi
 Specimen Thk: 1.5 - 1.501 in.
 Specimen Width: 3.8 in.
 Ref: 86842



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.20 (min)	0.194
7.	0.918
8.	1.58
9.	2.68
10.	6.45
13.	22.2
13.74 (max)	31.7

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
6.14 (min)	1.53
7.	4.58
8.	9.15
9.	15.8
10.	20.1
11.75 (max)	44.2

RMS %
 Error
 16.26

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 15.38

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.6.3.1.2

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E

7049

Condition/Ht: T73
 Form: 5 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 5.2 Hz

Yield Strength: 60.1 ksi
 Ult. Strength: 70.3 ksi
 Specimen Thk: 0.748 - 0.75 in.
 Specimen Width: 3 in.
 Ref: 86842

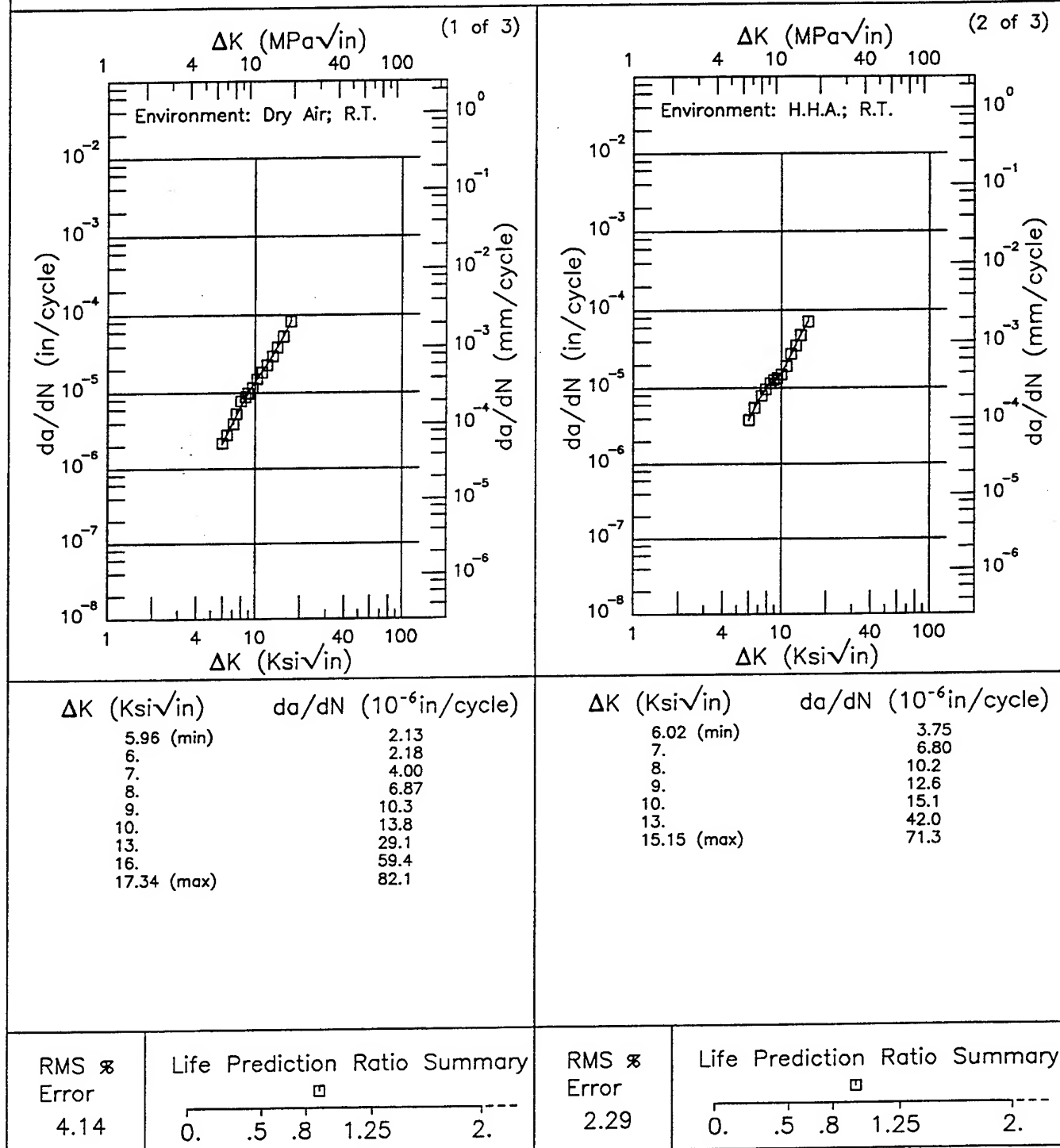


Figure 8.6.3.1.3

Condition/Ht: T73
 Form: 5 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 5.2 Hz

Yield Strength: 60.1 ksi
 Ult. Strength: 70.3 ksi
 Specimen Thk: 0.748 - 0.75 in.
 Specimen Width: 3 in.
 Ref: 86842

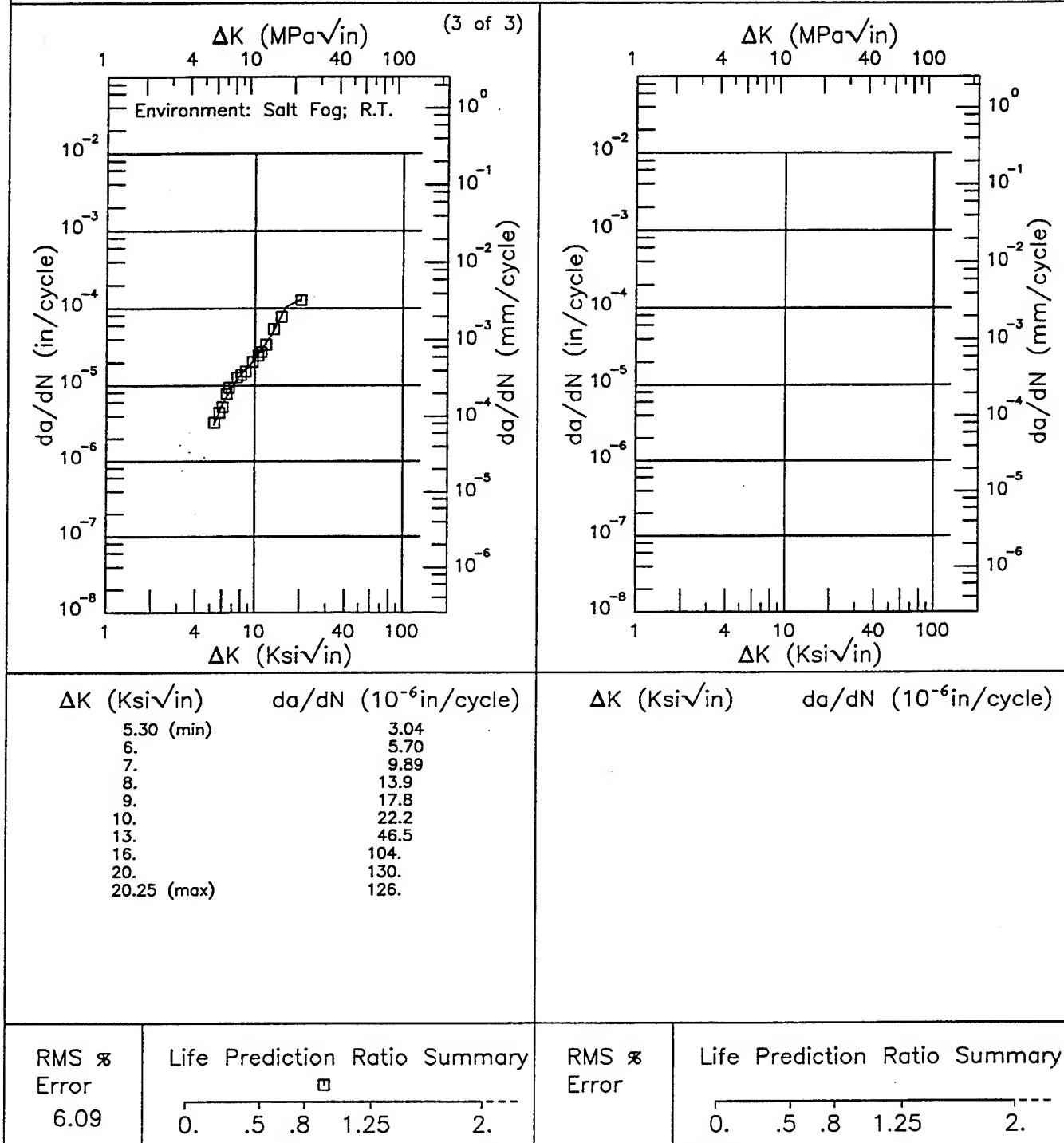


Figure 8.6.3.1.3 (Concluded)

R

7049

Condition/Ht: T73

Form: 5 in. Forging

Specimen Type: CCP (max load specified)

Orientation: T-L

Frequency: 5.2 Hz

Environment: SALT FOG; RT

Yield Strength: 58.1 ksi

Ult. Strength: 68.4 ksi

Specimen Thk: 0.749 - 0.752 in.

Specimen Width: 3 in.

Ref: 86842

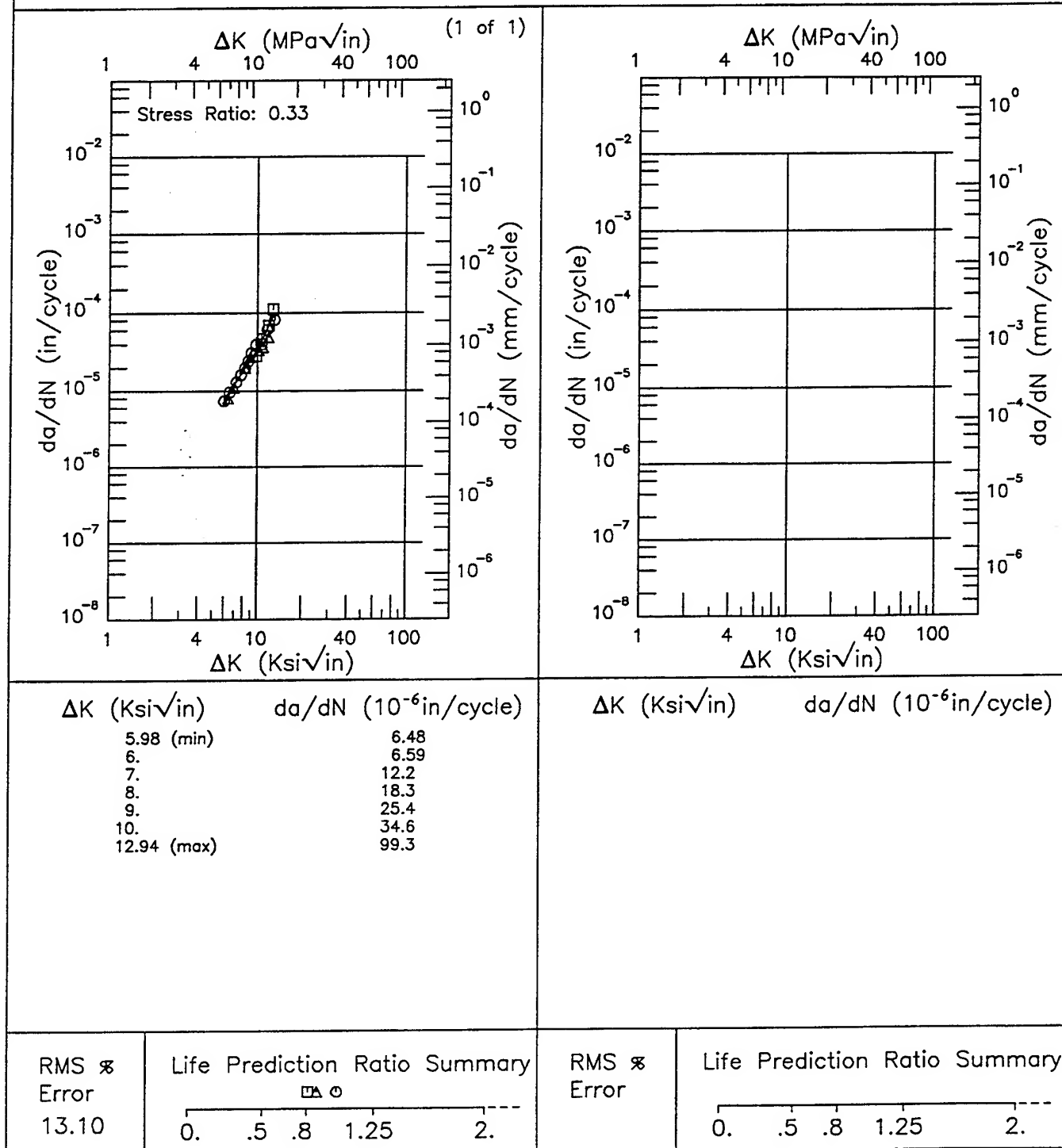
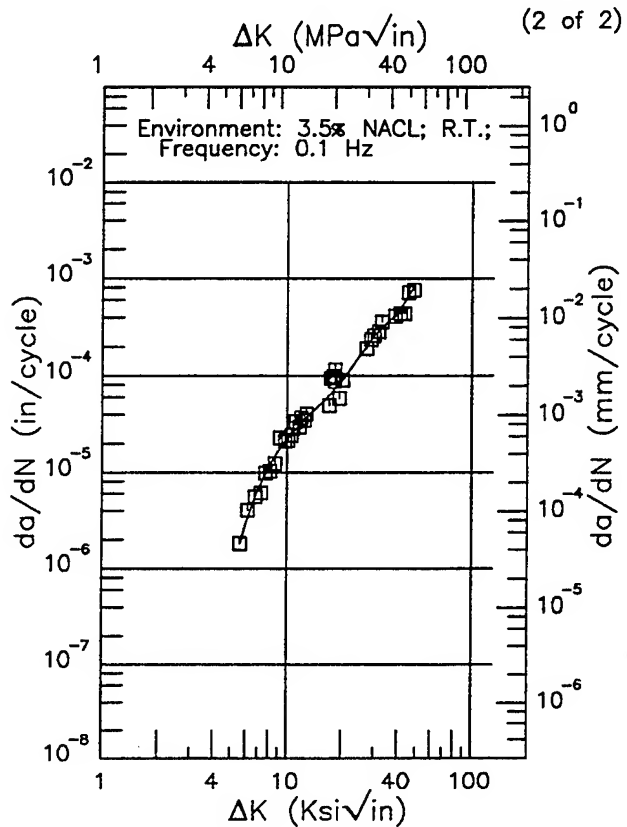
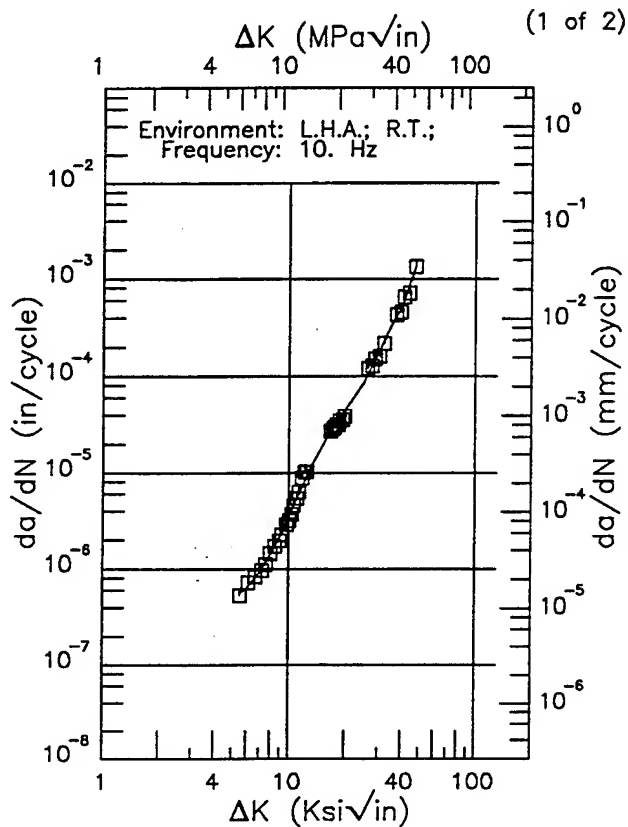


Figure 8.6.3.1.4

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: -1

Yield Strength: 72 ksi
 Ult. Strength: 80.5 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.51 (min)	0.561
6.	0.631
7.	0.913
8.	1.43
9.	2.27
10.	3.56
13.	11.1
16.	24.1
20.	45.2
25.	85.9
30.	176.
35.	333.
40.	510.
47.38 (max)	1297.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.59 (min)	1.88
6.	2.95
7.	6.67
8.	11.5
9.	16.9
10.	22.3
13.	38.1
16.	54.8
20.	87.4
25.	160.
30.	259.
35.	352.
40.	435.
48.22 (max)	800.

RMS %
 Error
 9.59

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 19.24

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.6.3.1.5

EF

7049

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.

Yield Strength: 72 ksi
 Ult. Strength: 80.5 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007

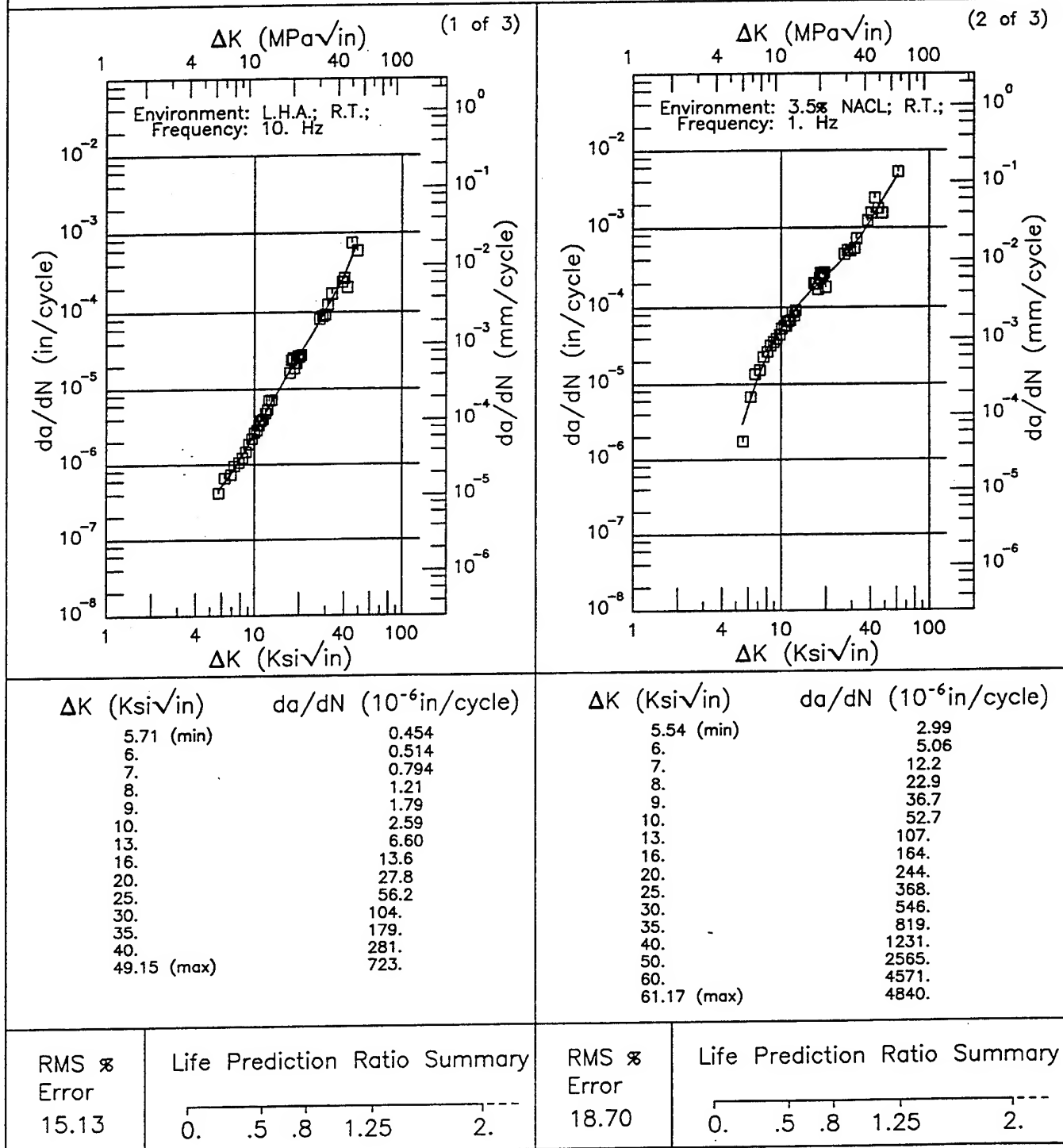


Figure 8.6.3.1.6

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.

Yield Strength: 72 ksi
 Ult. Strength: 80.5 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007

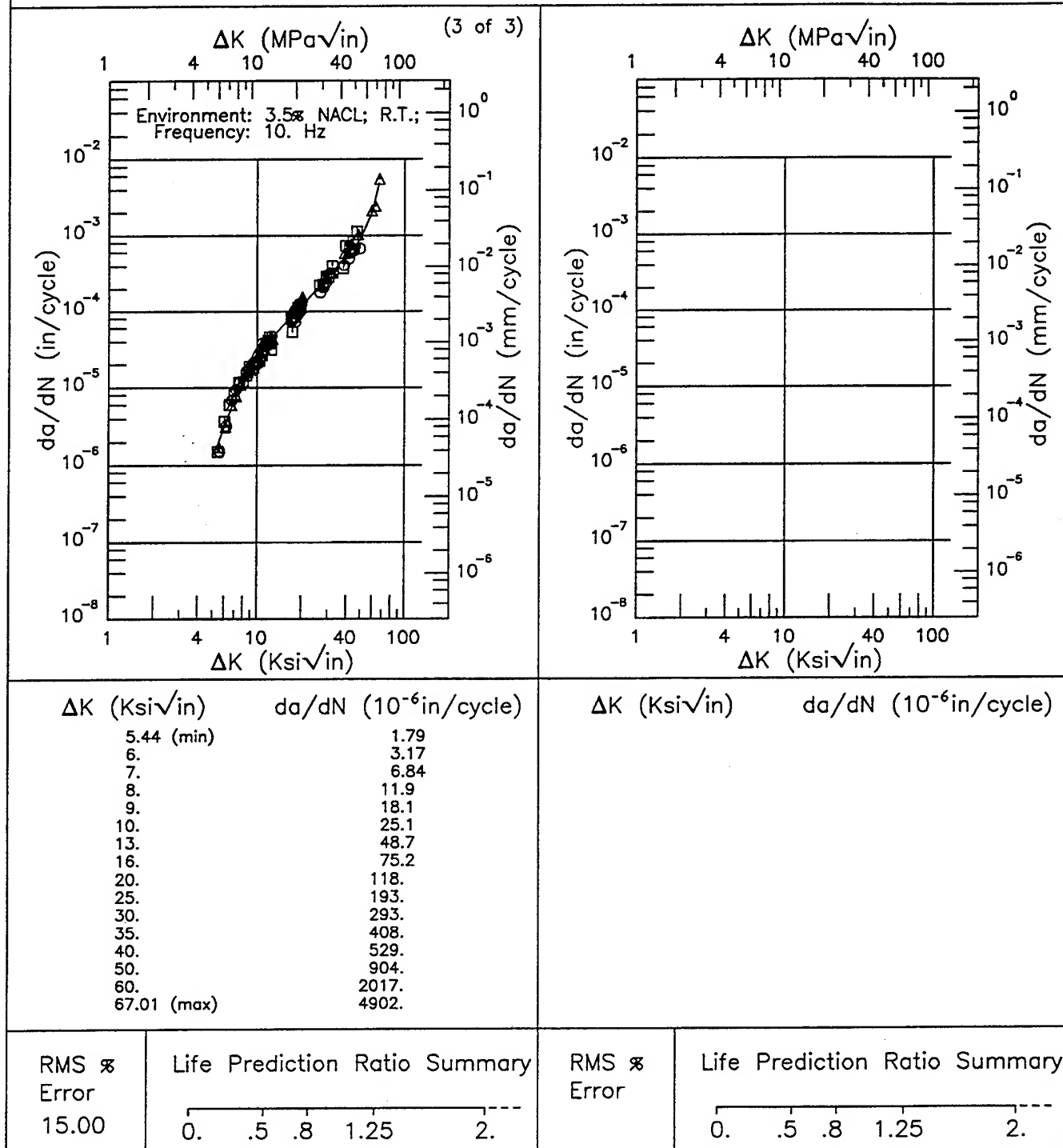


Figure 8.6.3.1.6 (Concluded)

EF

7049

Condition/Ht: T7351

Form: 1.25 in. Plate

Specimen Type: CCP (max load specified)

Orientation: L-T

Stress Ratio: 0.5

Yield Strength: 72 ksi

Ult. Strength: 80.5 ksi

Specimen Thk: 0.25 in.

Specimen Width: 4 in.

Ref: MA007

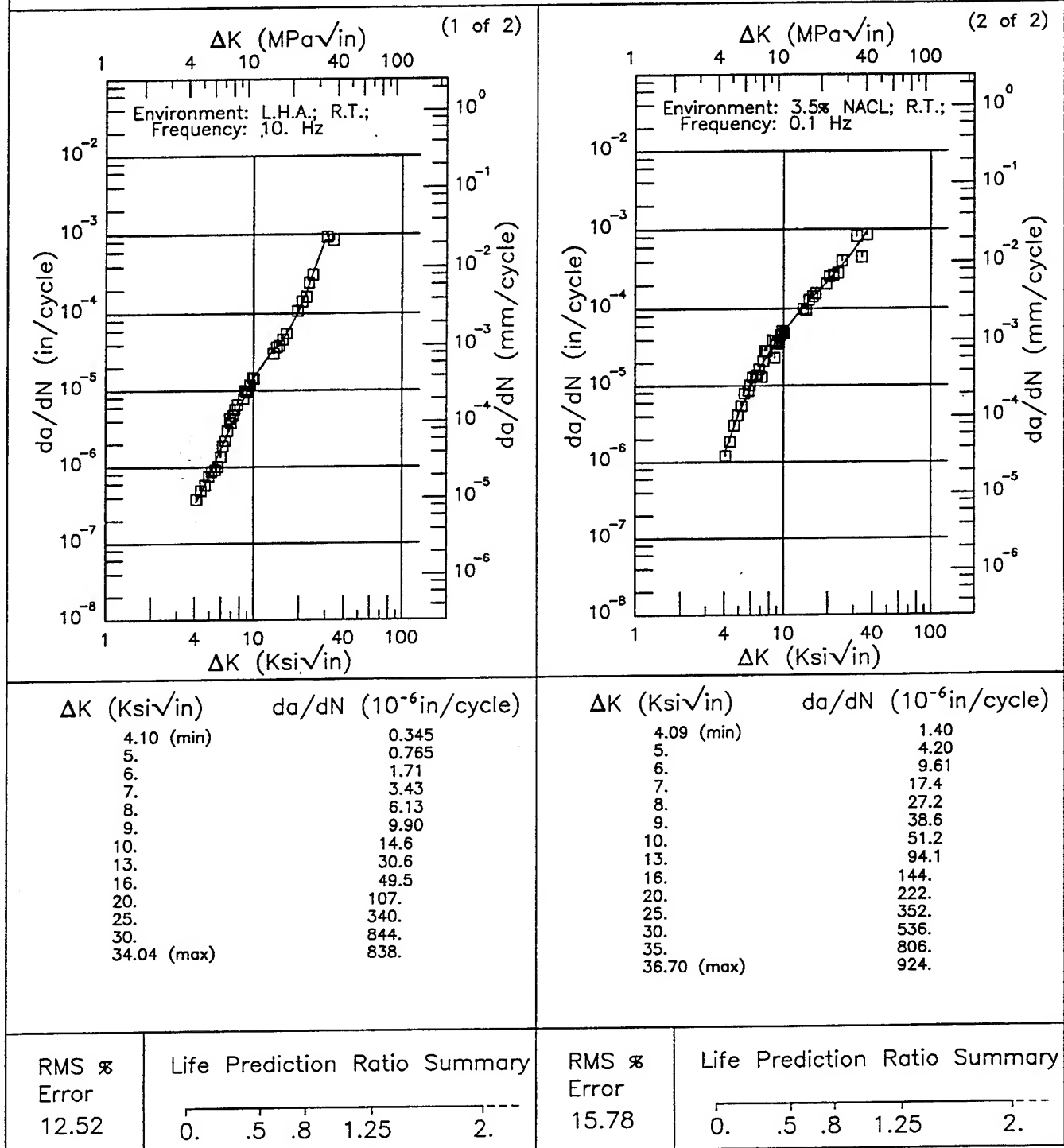


Figure 8.6.3.1.7

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 76.7 ksi
 Ult. Strength: 83.9 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

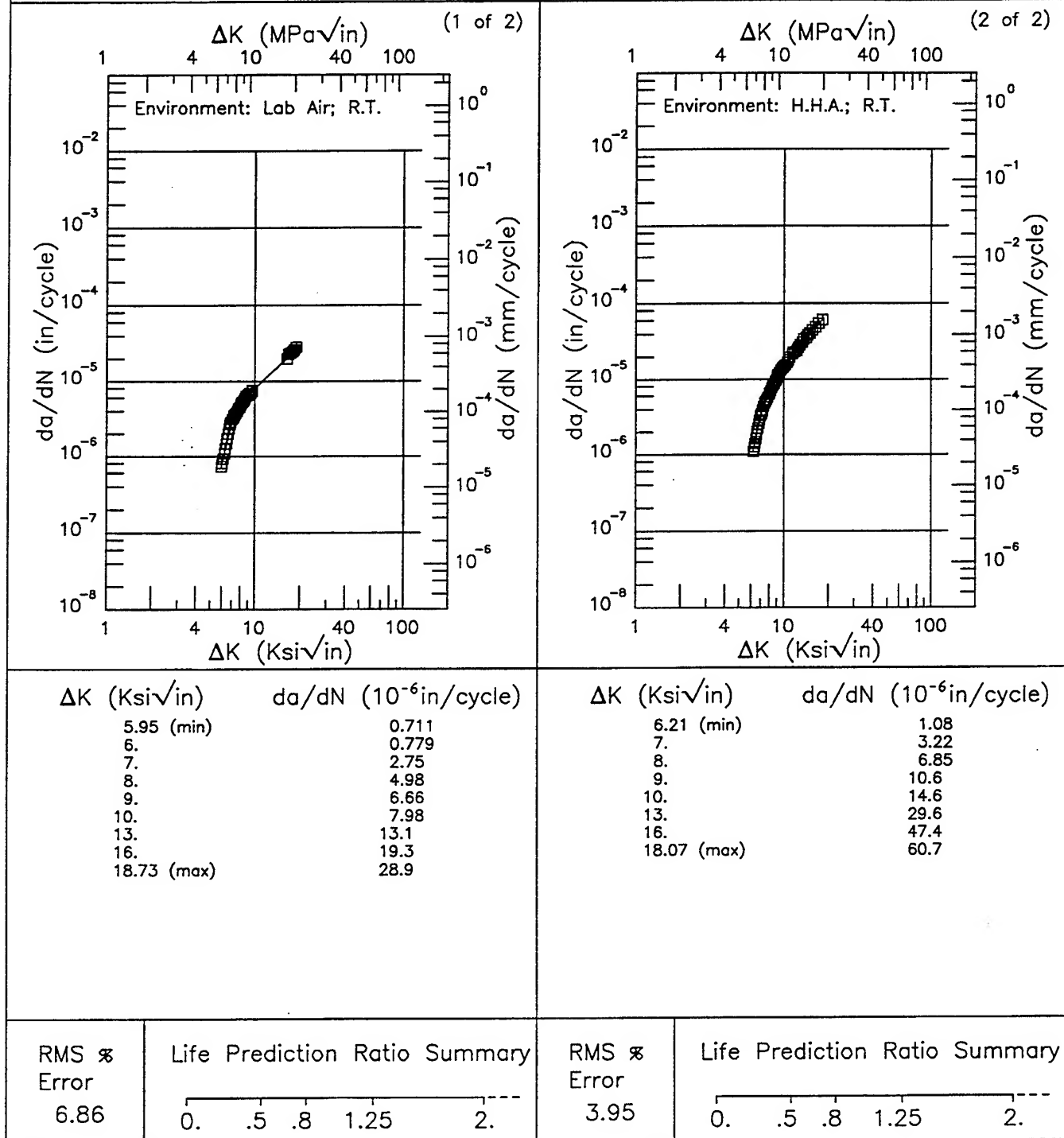


Figure 8.6.3.1.8

R

7049

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 70.3 ksi
 Ult. Strength: 78.5 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

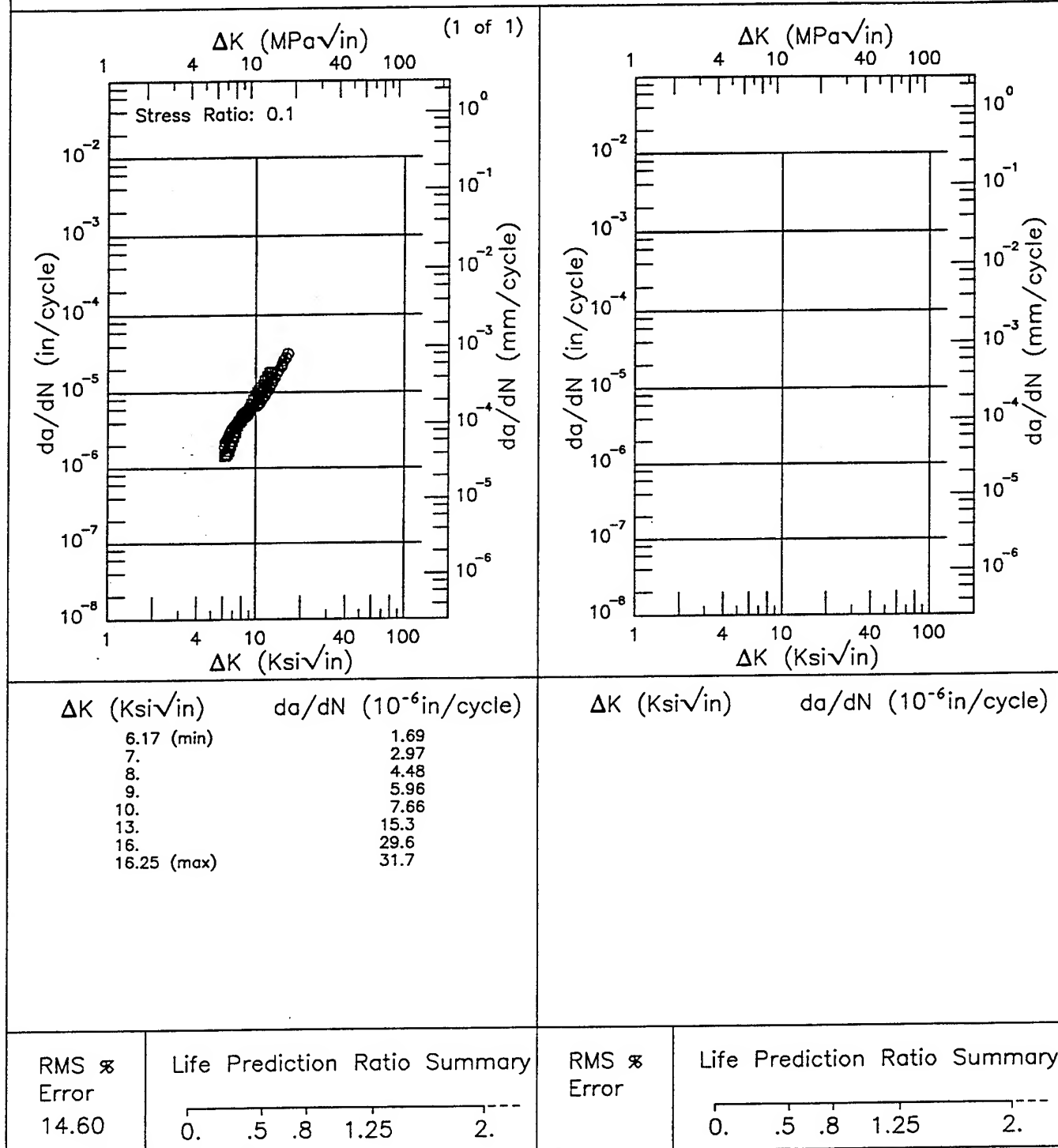


Figure 8.6.3.1.9

Condition/Ht: T73511-LOW PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 73.1 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

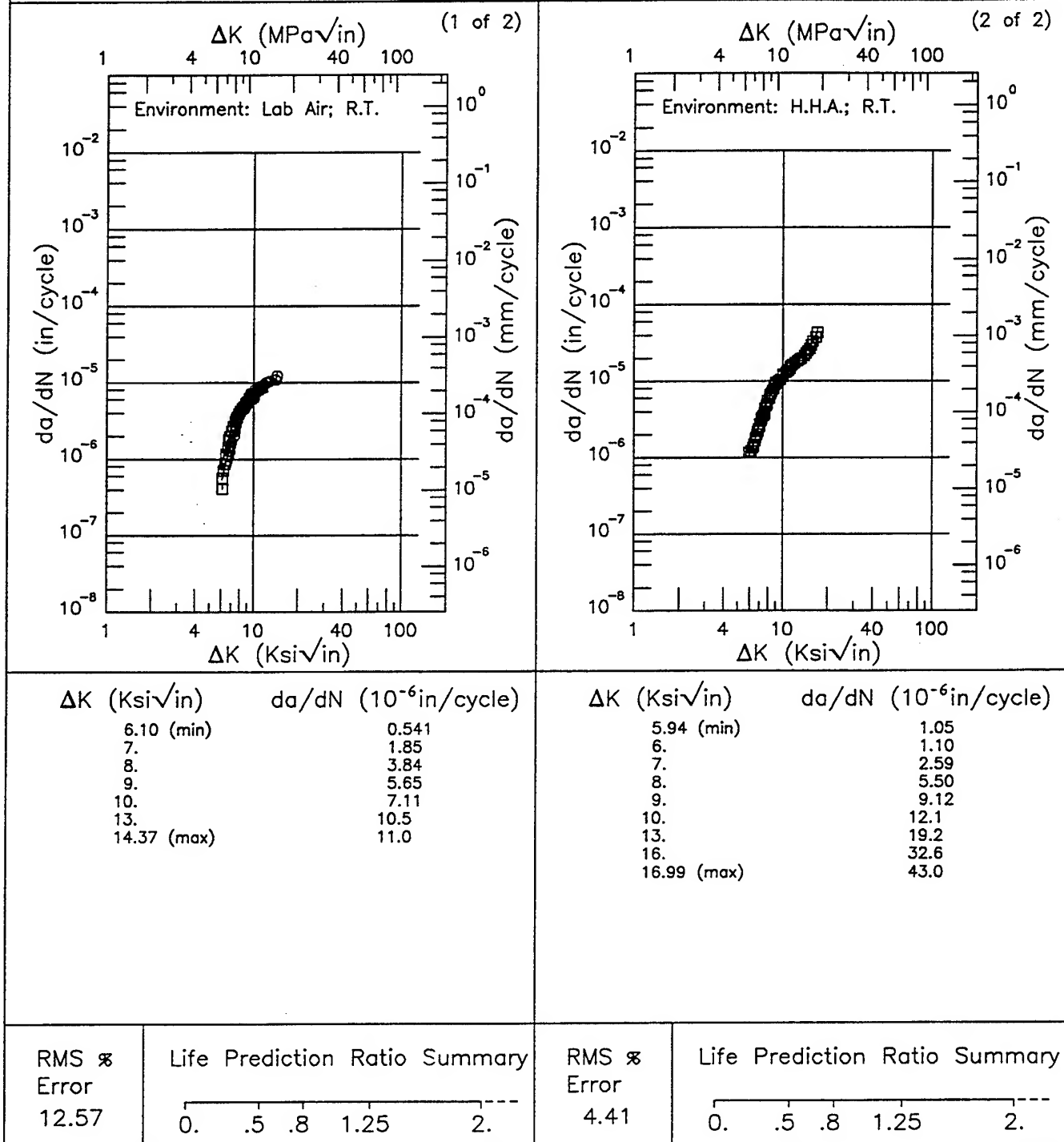
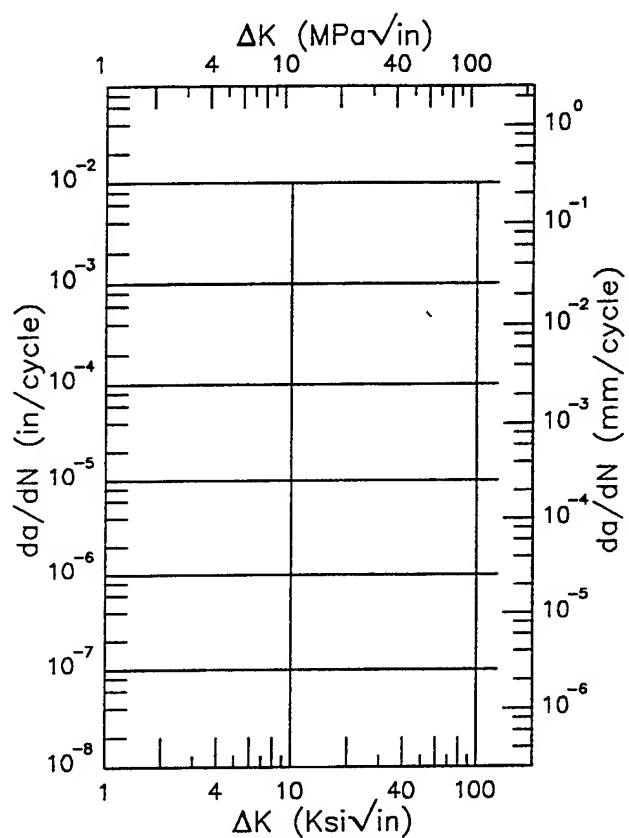
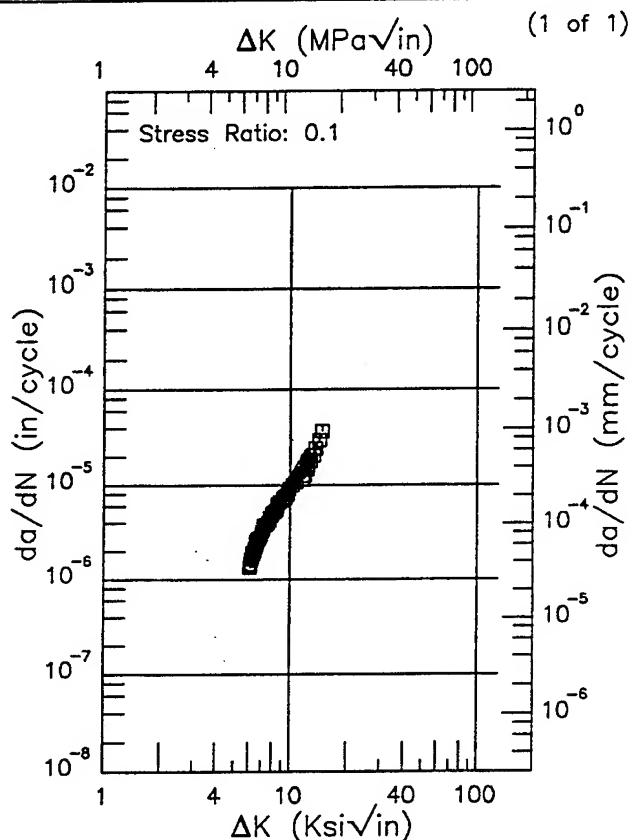


Figure 8.6.3.1.10

R 7049

Condition/Ht: T73511-LOW PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 68.6 ksi
 Ult. Strength: 75.7 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
6.07 (min)	1.42
7.	2.99
8.	4.98
9.	7.07
10.	9.32
13.	20.0
14.70 (max)	33.4

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 7.40

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.6.3.1.11

Condition/Ht: T73511-MEDIUM PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 75.4 ksi
 Ult. Strength: 82.5 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

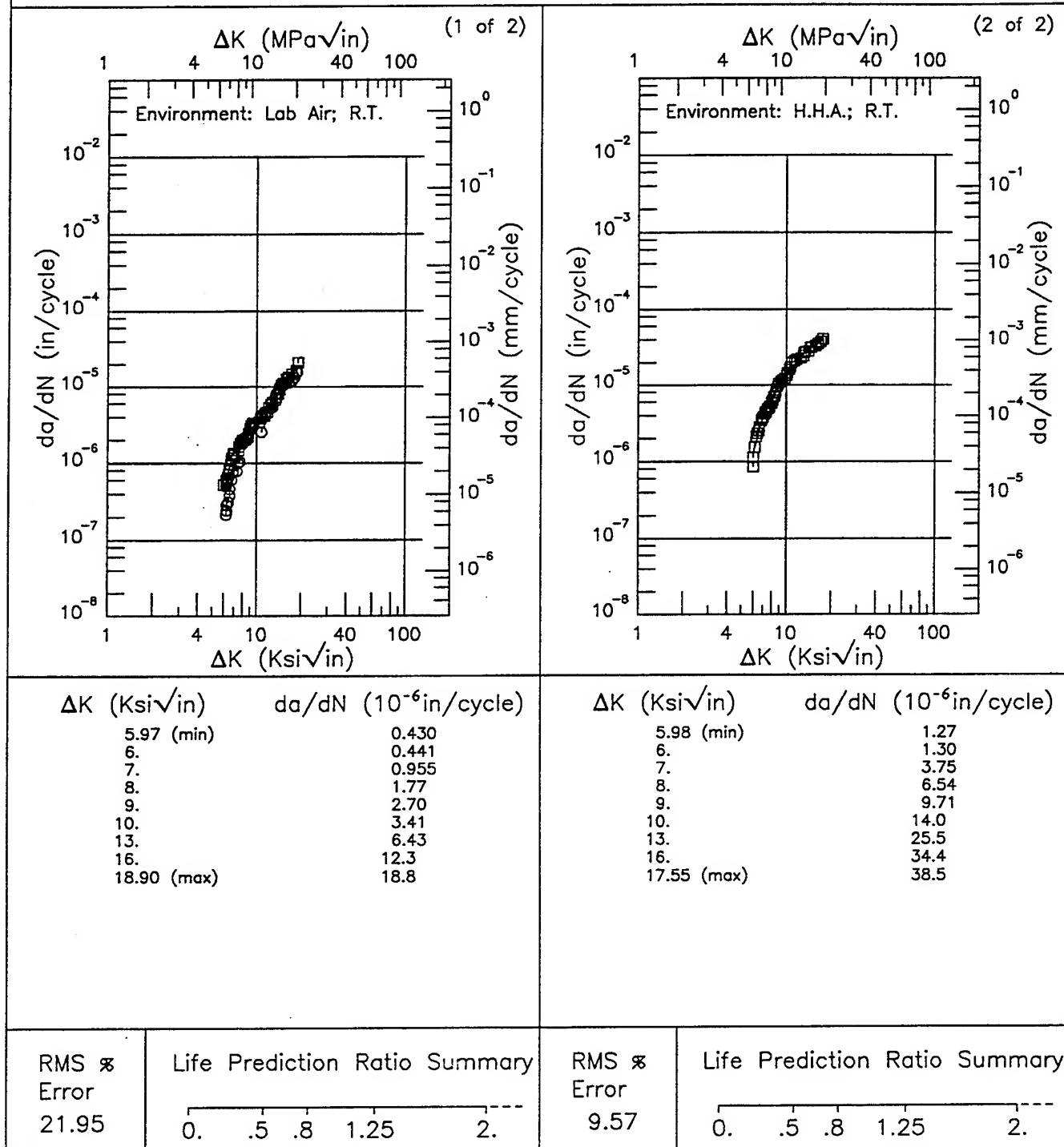
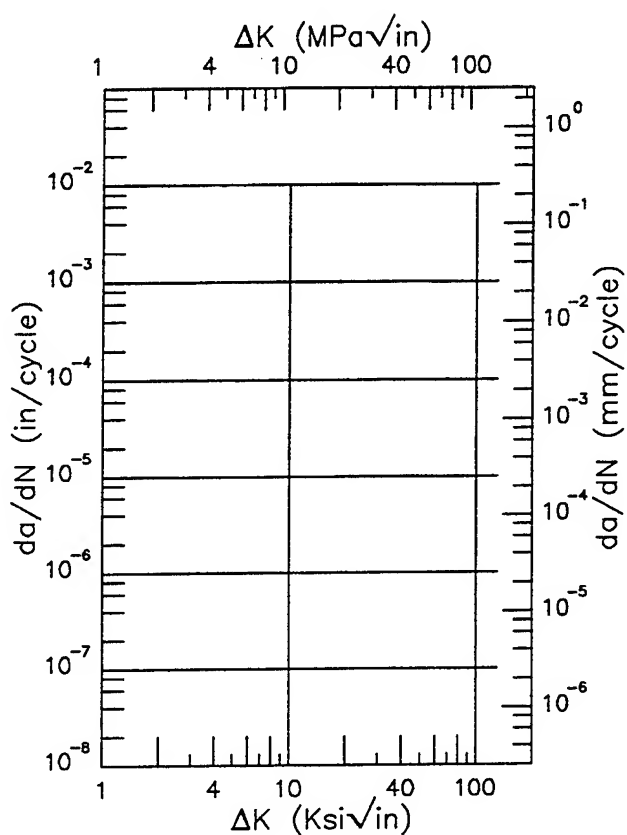
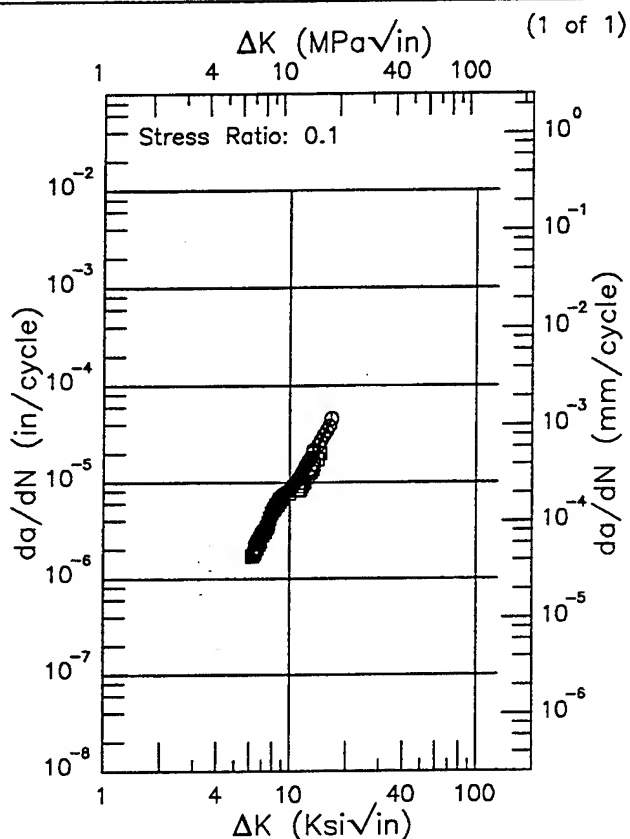


Figure 8.6.3.1.12

R 7049 |
 Condition/Ht: T73511-MEDIUM PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.2 ksi
 Ult. Strength: 76.5 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.21 (min)	1.81
7.	2.77
8.	4.80
9.	7.01
10.	8.49
13.	15.9
16.	37.4
16.60 (max)	44.3

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 10.38

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

RMS %
 Error

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

Figure 8.6.3.1.13

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 67 ksi
 Ult. Strength: 76 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 7.4 in.
 Ref: 88579

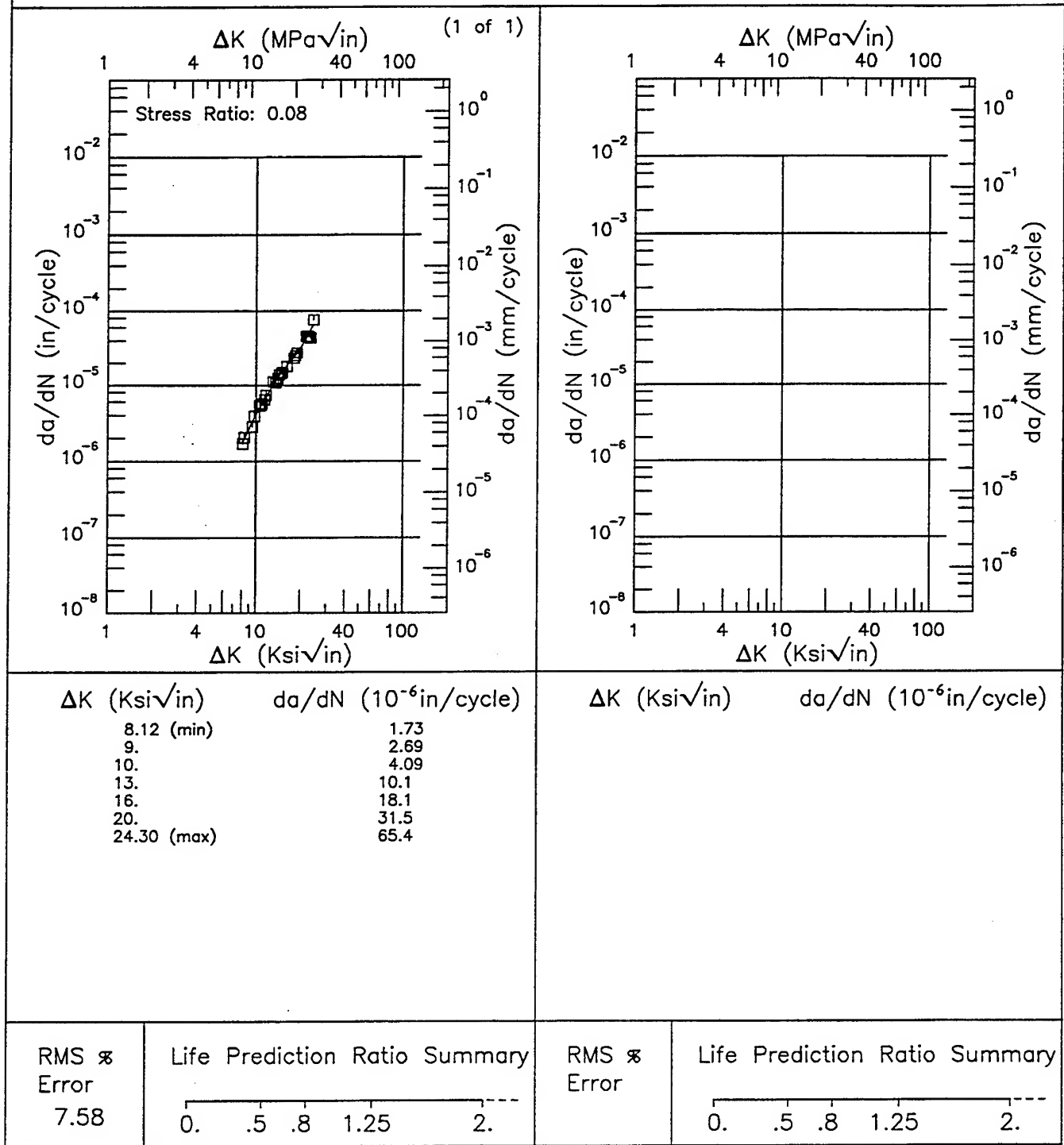
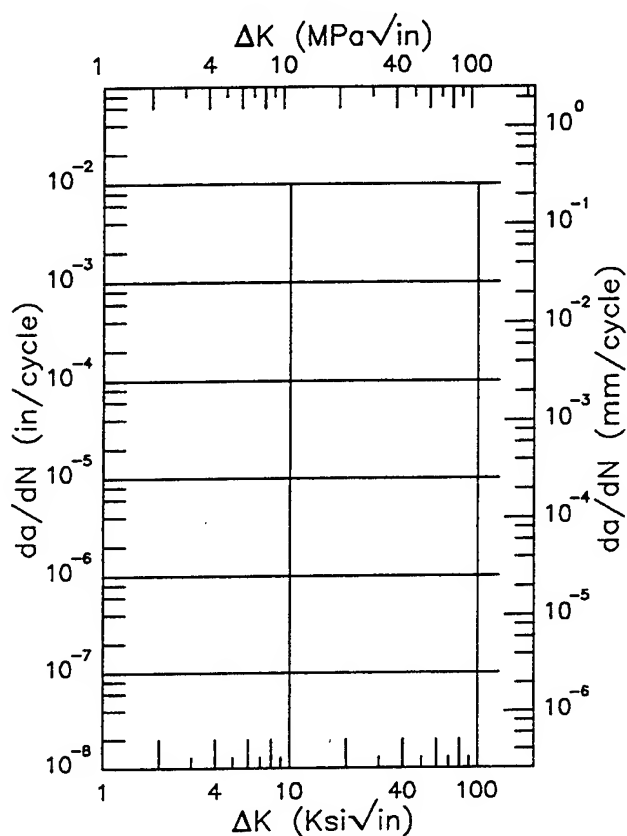
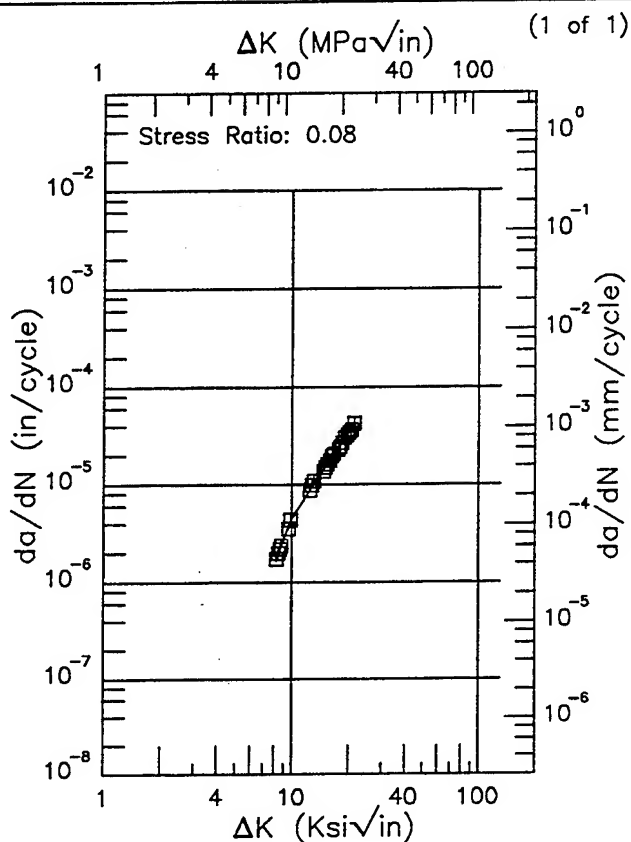


Figure 8.6.3.1.14

R 7049

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 67 ksi
 Ult. Strength: 76 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
8.25 (min)	1.64
9.	2.80
10.	4.54
13.	10.0
16.	18.0
20.	33.6
21.29 (max)	41.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 3.24

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

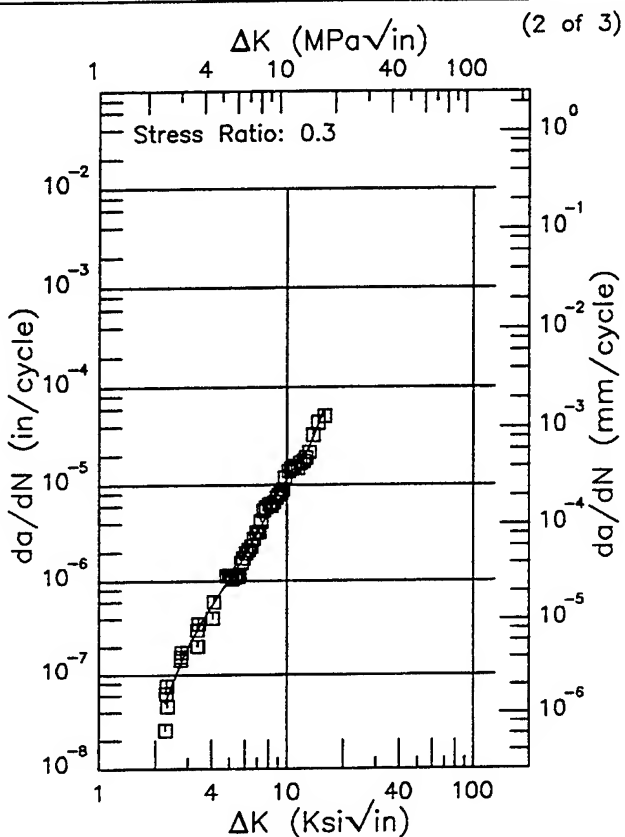
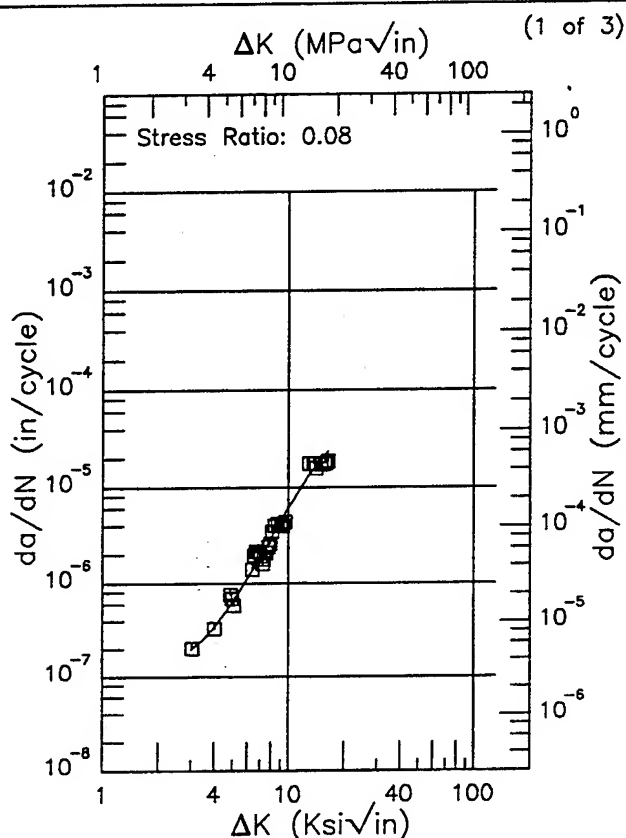
Figure 8.6.3.1.15

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R 7049

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 65 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 85837

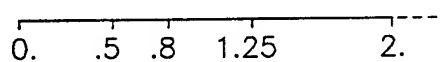


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.03 (min)	0.199
3.5	0.255
4.	0.343
5.	0.633
6.	1.12
7.	1.88
8.	2.97
9.	4.42
10.	6.25
13.	13.7
16.	22.6
16.34 (max)	23.6

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.27 (min)	0.0504
2.5	0.0860
3.	0.199
3.5	0.353
4.	0.543
5.	1.05
6.	1.82
7.	3.10
8.	5.20
9.	8.21
10.	11.9
13.	23.3
15.87 (max)	59.8

RMS %
 Error
 17.30

Life Prediction Ratio Summary



RMS %
 Error
 17.81

Life Prediction Ratio Summary

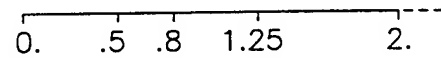


Figure 8.6.3.1.16

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 65 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 85837

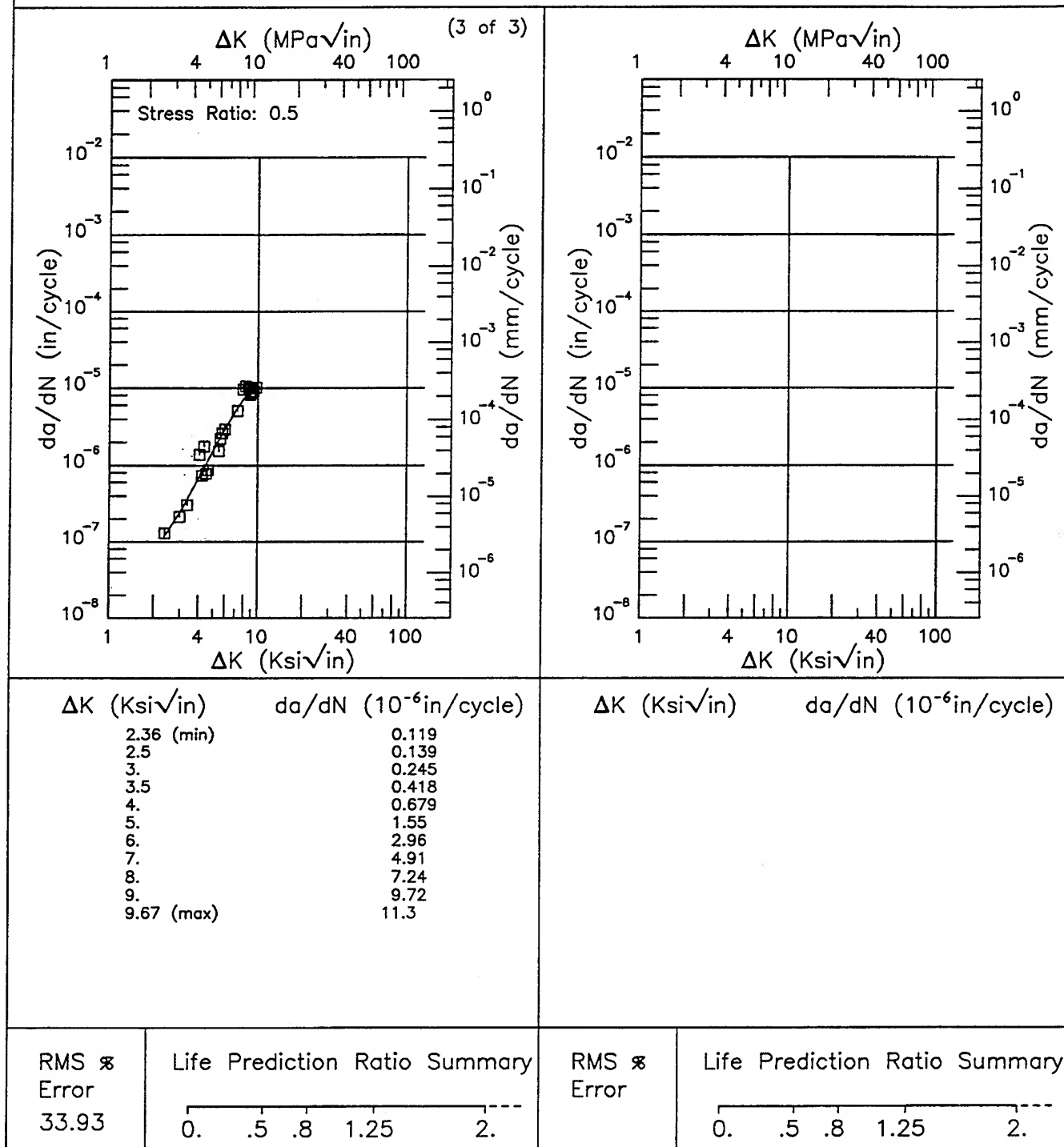


Figure 8.6.3.1.16 (Concluded)

R

7049

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 0.1 Hz
 Environment: S.T.W.; RT

Yield Strength: 67 ksi
 Ult. Strength: 76 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

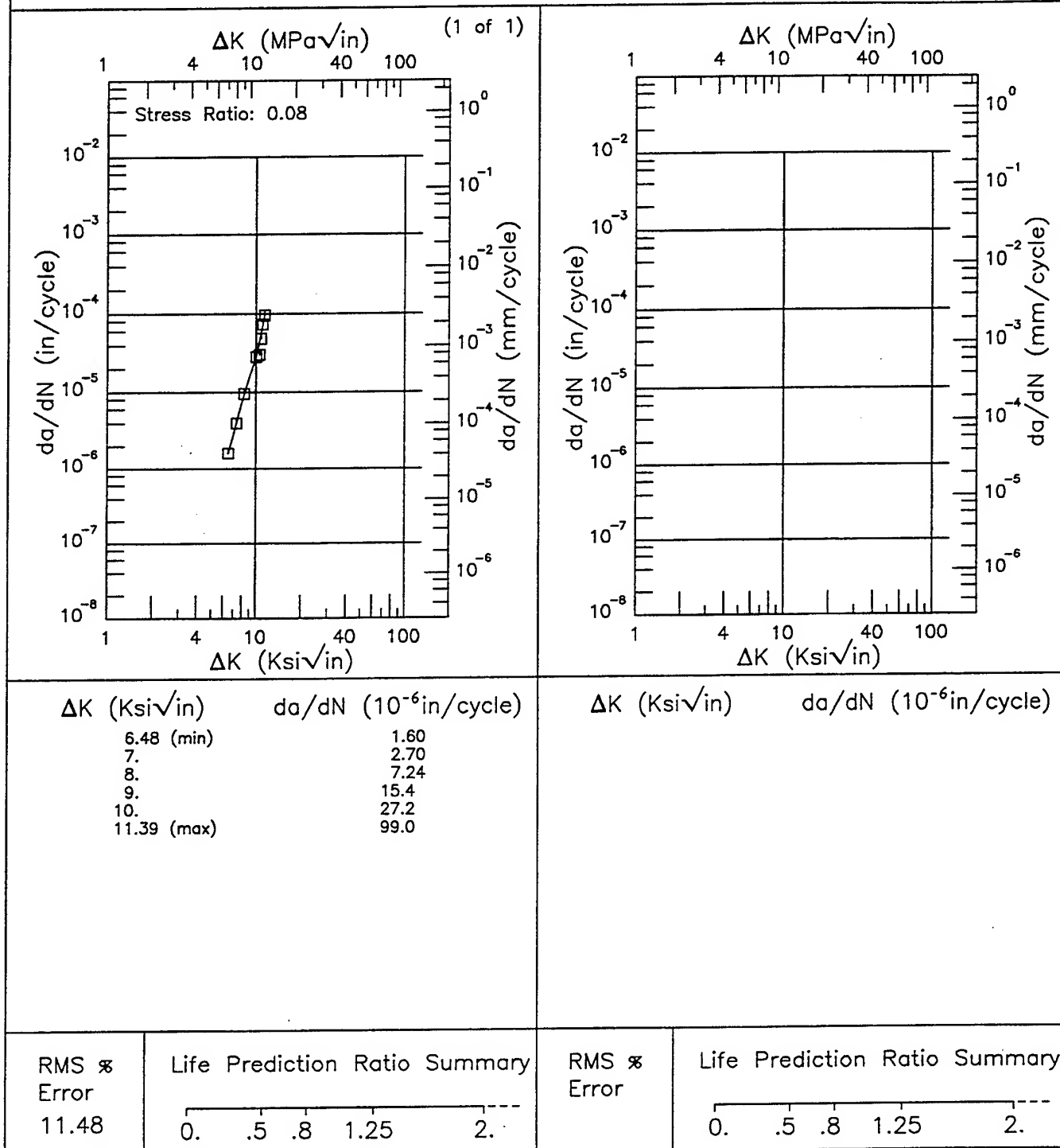


Figure 8.6.3.1.17

Condition/Ht: T7352
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 65 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 7.4 in.
 Ref: 85837

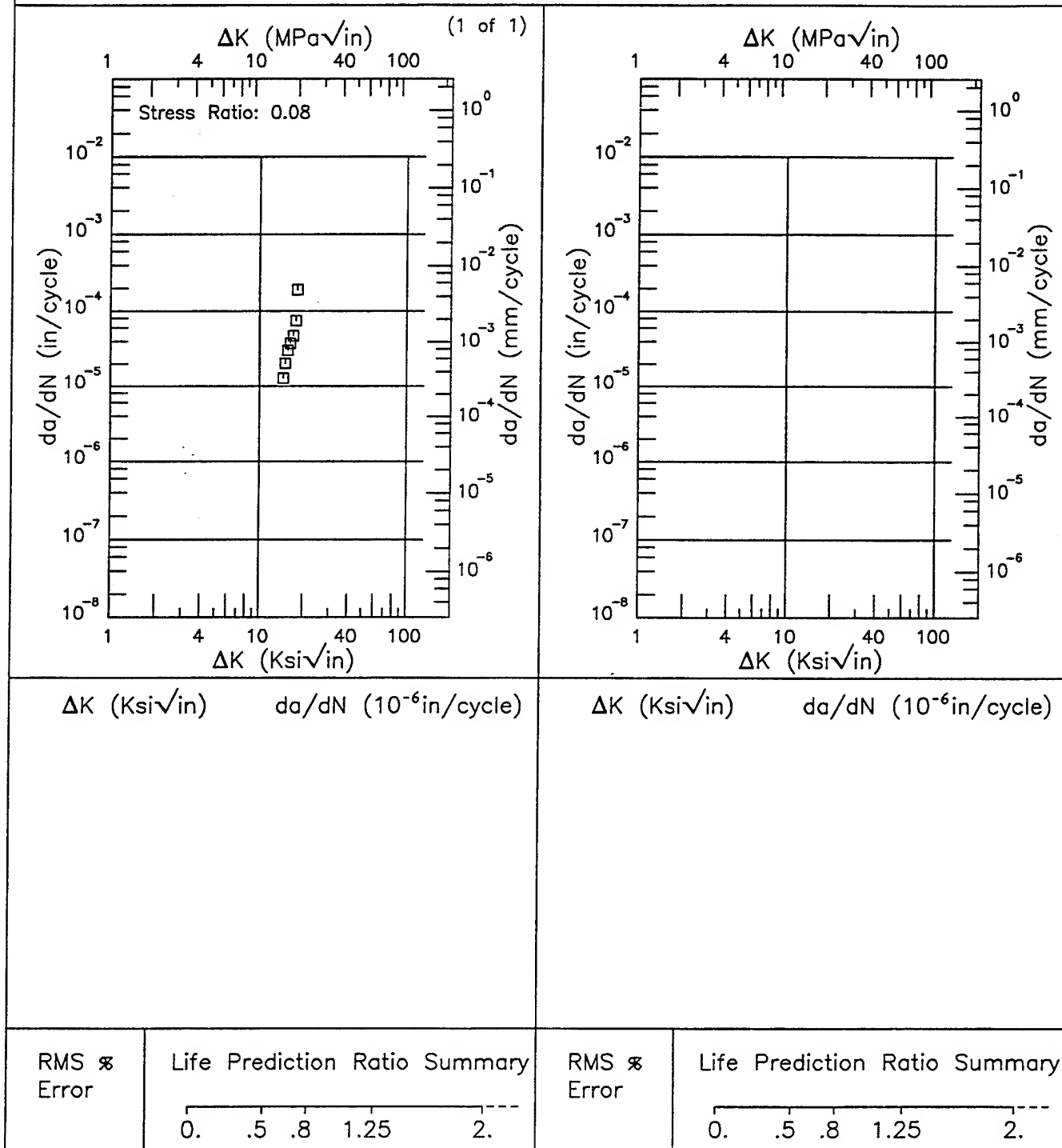


Figure 8.6.3.1.18

R 7049

Condition/Ht: T7352
 Form: Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 64 ksi
 Ult. Strength: 73 ksi
 Specimen Thk: 0.99 in.
 Specimen Width: 7.4 in.
 Ref: 88579

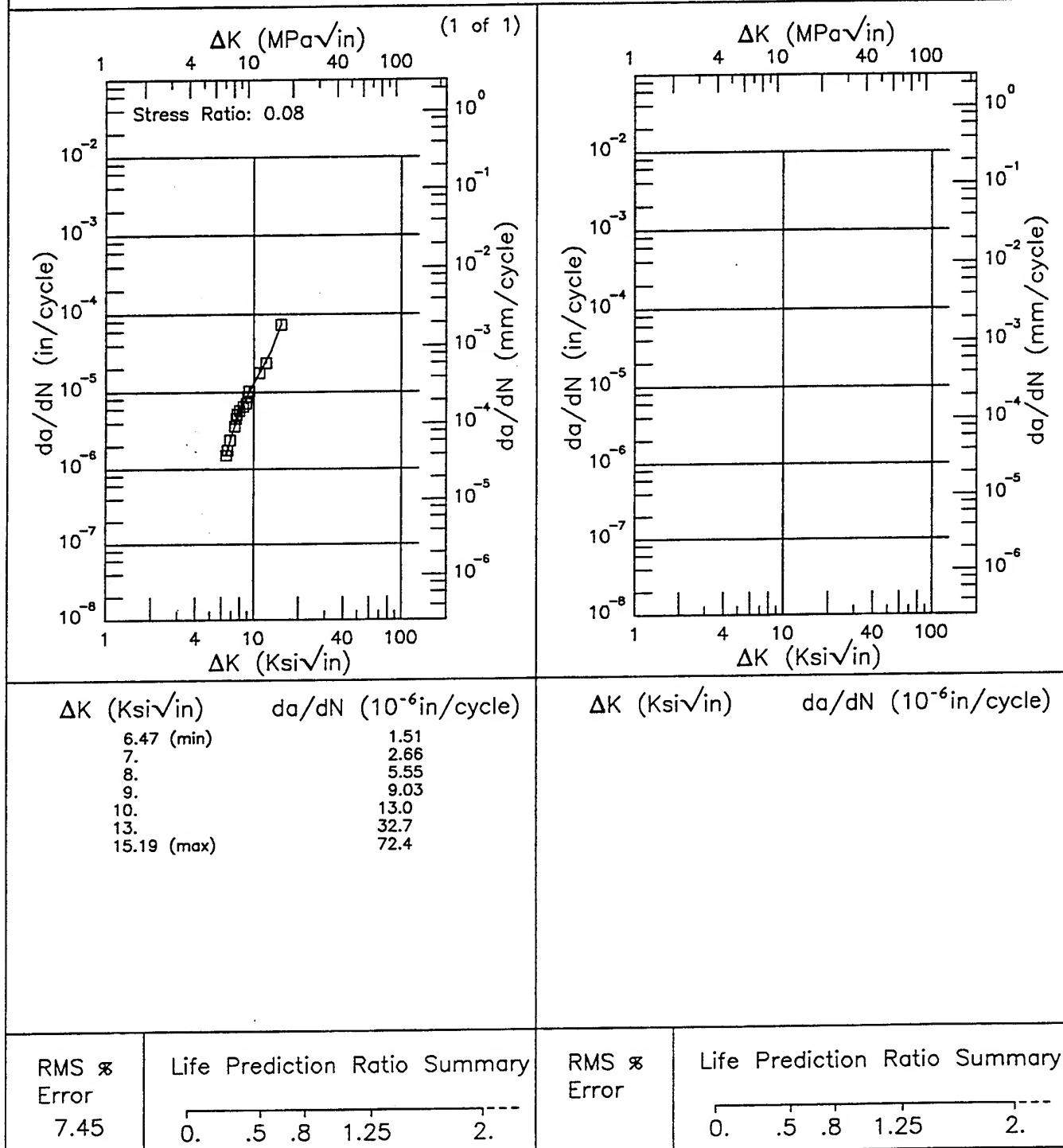


Figure 8.6.3.1.19

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7049

Condition/Ht: T73
 Form: Forging
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A_0 :
 K_{Isc} :
 Ref: 84284

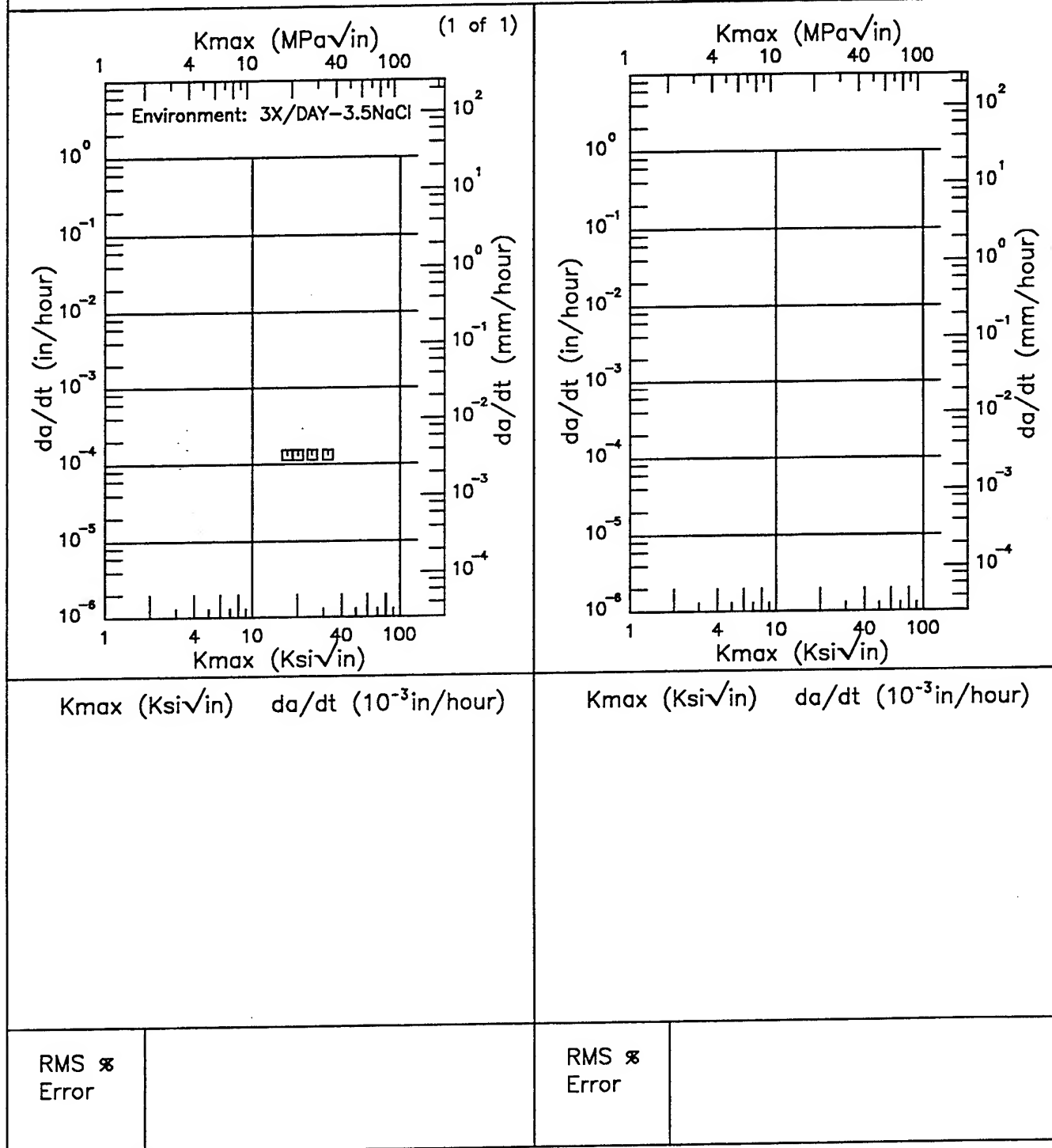


Figure 8.6.3.2

TABLE 8.6.3.3

(1 of 1)

K_{Isc} SUMMARY FOR ALUMINUM ALLOY 7049

Condition/ Heat treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K _Q (Ksi√in)	K _{Isc} (Ksi√in)	Test Time (min)	Test Date	Refer
						Design	Width (in)	Thick (in)							
T73	F	R.T.	S-L	68.9	3.5% NaCl	CT	1	0.5	---	---	20.5	19.8	60660	1972	83242
			L-S	73.4	3.5% NaCl	CT	2	1	3.25	---	33.2	20.4	21280	1972	83061
	E	R.T.	S-L	65.4	3.5% NaCl	CT	2	1	3.25	---	23	20.3	19800	1972	83061
T73 Integrally Stiffened	E	R.T.	L-S	74.8	3.5% NaCl	CT	2	1	3	---	28.1	26.7	17130	1972	83061
			S-L	68.6	3.5% NaCl	CT	2	1	3	---	20.3	19.4	40230	1972	83061
					F.C.S.	DCB	5.5	1	3	---	41	>27.5	76200	1976	RI006
T7352	F	R.T.	L-T	67	S.C.S.	DCB	5.5	1	3	---	41	>25.5	76200	1976	RI006
						DCB	5.5	1	3	---	41	27.6	76200	1976	RI006
						DCB	5.5	1	3	---	41	21	133680	1976	RI006
			T-L	64	S.T.W.	DCB	5.5	1	3	---	41	19.5	133680	1976	RI006
						DCB	5.5	1	3	---	41	>21.5	133680	1976	RI006
						DCB	5.5	1	3	---	41	>20	133680	1976	RI006
						DCB	5.5	1	3	---	41	19	133680	1976	RI006
			S-L	62	S.T.W.	DCB	5.5	1	3	---	39	17.5	133680	1976	RI006
						DCB	5.5	1	3	---	39	>17.5	133680	1976	RI006
						DCB	5.5	1	3	---	39	>22.5	61680	1976	RI006
						DCB	5.5	1	3	---	39	17	133680	1976	RI006

TABLE 8.7.1.1
MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7050 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	$K_{Ic} \text{ (ksi}\sqrt{\text{in}})$									
		Specimen Orientation									
		L-T			T-L			S-L			
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	
Plate		T7351	34.8	3.9	31	30.	2.6	29	28.	1.3	30
		T73651	31.9	3.9	86	28.7	4.7	83	23.5	1.5	35
		T7651	33.4	2.8	6	---	---	---	---	---	---
Forging		T736	32.3	2.3	4	23.4	1.	4	24.6	0.6	6
		T73652	31.1	2.5	11	20.7	1.4	13	19.2	1.4	17
		T7452	31.1	1.2	2	23.5	3.	3	---	---	---
		T7E56	---	---	---	28.9	3.9	4	---	---	---
Extrusion		T74511	40.4	5.	4	---	---	---	---	---	---
		T76511	34.8	5.5	3	---	---	---	---	---	---
Extruded Bar		T73511-HIGH PURITY	36.2	3.2	2	24.1	0.2	2	---	---	---

TABLE 8.7.1.2.1

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.1	2			23.7	184.42		
		0.1	20		0.86	12.08	72.27		
T73651	EXTRUSION	0.1	2			6.65	48.2		
		0.1	2			23.19	140.59		
T7651	PLATE	0.1	20		1.23	22.25			
		0.1	2			10.86	183.75		
T76511	EXTRUSION	0.1	20		0.34	13.32	103.22		

TABLE 8.7.1.2.2

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T ENVIRONMENT: Distilled Water

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T74511	EXTRUSION	0.1	1		0.73	6.33	52.15		
		0.8	1		1.95				
T7452	FORGING	0.1	1			5.04	86.01		
		0.8	1	0.32	2.34				
T7651	PLATE	0.05	1		0.42	5.23	46.29		
		0.8	1	0.31	2.71				
T76511	EXTRUSION	0.1	1		0.28	8.43	72.74		
		0.8	1	0.49	5.16				

TABLE 8.7.1.2.3

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: Dry Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20			7.17	63.03		
T736	FORGING	0.1	20				29.13		
T73651	PLATE	0.1	20			9.52			
T76	SHEET	0.33	13.3			13.36			
T7651	PLATE	0.1	20			9.17	40.72		

TABLE 8.7.1.2.4

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.1	2			6.79	41.88		
		0.1	2			5.27	45.31		
		0.1	15		0.44	5.89			
		0.1	10-20			5.23	47.72		
T73511	EXTRUSION	0.1	50		0.24				
		0.33	15		0.61	8.44			
		0.33	20		0.61	9.58			
		0.5	15	0.12	0.9	11.63			
T73511-HIGH PURITY	EXTRUSION	0.1	30			11.91			
T7351X	EXTRUSION	0.33	20		1.14	15.95			
		0.33	18.3			10.79			
T73651	PLATE	0.33	25	0.05	1.2	13.68	76.48		
		0.33	25	0.08					
	EXTRUSION	0.1	20		0.33	5.73	48.83		
T76	SHEET	0.33	13.3			28.6			

TABLE 8.7.1.2.4 (CONCLUDED)

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FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7651	PLATE	0.1	2			7.97	68.9		
		0.1	20		0.33	9.64	51.87		
T76511	EXTRUSION	0.1	2			4.3	51.72		
		0.1	20		0.17	4.22	47.11		
		0.33	18.3		0.84	14.68			
		0.33	18.3			13.81			
T7651X	EXTRUSION	0.33	20		1.06	14.83			

TABLE 8.7.1.2.5

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T**ENVIRONMENT: JP-4 Jet Fuel**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7651	PLATE	0.02	1-20			3.57	35.15	
								100.0

TABLE 8.7.1.2.6

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGING	0.08	6				11.57		
T73511	EXTRUSION	0.1	10-30		0.23	2.64	29.84		
		0.33	7.5-15		0.32	1.8			
		0.5	8-50	0.09	0.78	10.17			
T7351X	EXTRUSION	0.33	20		0.49	3.47			
T73651	PLATE	0.08	6			2.41	23.92		
		0.3	6		0.37	4.69			
		0.33	18.3			8.06			
		0.5	6			12.96			
T76511	EXTRUSION	0.33	18.3		0.4	3.85			
		0.33	18.3			2.79			
		0.46	18.3			9.9			
T7651X	EXTRUSION	0.33	20		0.42	3.15			
		0.33	20		0.49	3.31			

7050

TABLE 8.7.1.2.7

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.1	10			5.37	49.71		
T73511-HIGH PURITY	EXTRUSION	0.1	30			6.18			
T736	FORGING	0.1	3-10			12.17	59.43		
T73651	PLATE	0.1	5			4.67	44.92		
		0.1	5-10			7.23	46.45		
		0.1	3-20			9	56.77		
		0.1	25		0.68	3.34	36.26		
T74	HAND FORGING	0.1	20			5.01	50.71		
		0.1	30		0.15				
		0.5	20		1.08	11.16			
		0.8	20		2.18				
T7451	PLATE	-1	10		0.89	5.51			
		-1	10		1.19	7.59			
		-0.66	10		0.67	5.05	39.63		
		-0.33	10		0.6	5.47	31.02		
		0.	10		0.48	6.2			

TABLE 8.7.1.2.7 (CONTINUED)

2 of 5

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	$FCGR (10^{-6} \text{ in/cycle})$					
				$\Delta K \text{ Level (Ksi/in)}$					
				2.5	5.0	10.0	20.0	50.0	100.0
T7451 (Cont'd)	PLATE (Cont'd)	0.	10		0.52	5.29	41.81		
		0.02	10		0.44	6.49	45.2		
		0.02	15			5.4	37.98		
		0.55	10	0.14	1.75	15.73			
		0.1	1			7.5			
T74511	EXTRUSION	0.1	5		0.41	7.55			
		0.1	5-10	0.14	1.48				
		0.1	20	0.05	0.46	7.39	49.87		
		0.1	20	0.05	0.61	7.38			
		0.1	20-30	0.09	1.01				
		0.1	---		0.44	5.92			
		0.4	5-10	0.1	0.9	9.71			
		0.4	20	0.12	1.23				
		0.5	20		1.21	10.49			
		0.5	25	0.1	1.23				
		0.8	10			29.64			

7050

TABLE 8.7.1.2.7 (CONTINUED)

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	$FCGR (10^{-6} \text{ in/cycle})$					
				$\Delta K \text{ Level (Ksi/in)}$					
				2.5	5.0	10.0	20.0	50.0	100.0
T74511 (Cont'd)	EXTRUSION (Cont'd)	0.8	20		2.28				
		0.8	20		1.71				
		0.8	20	0.17	1.69				
		0.8	---	0.23	3.03				
T745111	EXTRUSION	0.1	20		0.4	6.37	52.8		
T7452	FORGING	0.	5-20	0.27	2.29	8.15	36.94		
		0.1	5		0.58	5.2			
		0.1	5			6.88	55.77		
		0.1	5-15		0.52	7.54	45.45		
		0.1	20		0.14	4.82	57.73		
		0.4	5-15	0.09	0.83	11.73			
T76	SHEET	0.4	20		0.32	7.08			
		0.8	5		4.72				
		0.8	5-30	0.19	2.56				
		0.	13.3			7.46	40.29		
		0.33	13.3			10.38	69.05		

TABLE 8.7.1.2.7 (CONTINUED)

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**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7651	PLATE	-1	2-10				0.16	6.3	
		0.	1					922.41	
		0.02	1-20		0.53	8.33	24.44		
		0.05	2			5.11			
		0.05	5		0.1	0.88	5.85	40.21	824.71
		0.1	5		0.09	0.49	6.04		
		0.4	5			1.35	9.51		
		0.4	15		0.09	1.12	9.32		
		0.4	5-20		0.11	1.35			
		0.4	---		0.13	1.22			
		0.8	10		0.21	2.7			
		0.8	10			2.78			
		0.8	15		0.18	1.17			
T76511	EXTRUSION	-1	2-10			0.3	5.51		
		0.1	1				57.88		
		0.1	5		0.12	0.9	7.91		

7050

TABLE 8.7.1.2.7 (CONCLUDED)

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76511 (Cont'd)	EXTRUSION (Cont'd)	0.1	5	0.09	0.79	5.49			
		0.1	20	0.07	0.62	7.31	42.94		
		0.4	1			10.38			
		0.4	5-10	0.14					
		0.4	20	0.07	1.12	7.89			
		0.8	5	0.23	3.81				
		0.8	20	0.16	1.93				

TABLE 8.7.1.2.8

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: S.S.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.1	1-10		1.46	17.85	160.17	
T7651	PLATE	0.02	5-15			11.64	52.99	
		0.02	1-20			9.96	61.37	

7050

TABLE 8.7.1.2.9

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20			22.2			
T73651	PLATE	0.1	1-10		1.2	18.1	78.31		
T74511	EXTRUSION	0.1	1			13.91	48.78		
		0.1				18.71	102.25		
		0.4	1		2.32				
		0.8	1		3.92				
		0.8			9.49				
T76511	EXTRUSION	0.1	1			16.72	80.35		
		0.1	20			21.32			
		0.4	1		2.83	21.58			
		0.8	1		6.41				

TABLE 8.7.1.2.10

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.33	18.3			16.83			
T76	SHEET	0.33	13.3			34.2			
T76511	EXTRUSION	0.33	18.3		2.73	20.65			

TABLE 8.7.1.2.11

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L				ENVIRONMENT: Distilled Water						
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)						
				ΔK Level (Ksi/in)						
				2.5	5.0	10.0	20.0	50.0	100.0	
T7452	FORGING	0.1	1		0.34	7.08				

TABLE 8.7.1.2.12

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: Dry Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	1.5-15			8.18			
T73652	FORGING	0.33	18.3			8.9			
T76	SHEET	0.33	13.3		1	7.22			

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TABLE 8.7.1.2.13

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.33	13.3			20.06	210.68		
	EXTRUSION	0.33	13.3			20.37			
T6-412972	SHEET	0.33	13.3			23.13	172.93		
T7351	PLATE	0.33	2-20			11.77			
T73511	EXTRUSION	0.33	15		0.57	11.12			
		0.33	10-20		0.42	10.74			
		0.5	20	0.03	0.57				
		0.5	10-30	0.04	0.53	18.8			
		0.33	20		1.1	17.4			
T7351X	EXTRUSION	0.33	20		0.91	14.2			
T73651	PLATE	0.33	18.3		0.67	13.95			
T73652	FORGING	0.33	18.3			15.71			
T76	SHEET	0.33	13.3			16.59			
T76511	PLATE	0.33	18.3			12.78			
	EXTRUSION	0.33	18.3			18.41			
	EXTRUSION	0.33	20		0.95	15.8			

TABLE 8.7.1.2.14

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.33	13.3			11.81	115.01		
T73511	EXTRUSION	0.33	7.5-15		0.37	5.77			
		0.5	10-40	0.04	0.27	5.33			
T7351X	EXTRUSION	0.33	20		0.63	6.9			
		0.33	20		0.54	8.33			
T73651	PLATE	0.08	6		0.24	2.93			
		0.33	18.3		0.36	6.26			
T76511	EXTRUSION	0.33	18.3		0.52	5.63			
T7651X	EXTRUSION	0.33	20			4.87			

TABLE 8.7.1.2.15

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L				ENVIRONMENT: Lab Air							
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)							
				ΔK Level (Ksi/in)							
				2.5	5.0	10.0	20.0	50.0	100.0		
T73511-HIGH PURITY	EXTRUSION	0.1	30			3.74					
T736	FORGING	0.1	10			6.94	98.63				
T73651	PLATE	0.1	5-10			8.05	47.14				
T7452	FORGING	0.1	5-15	0.09	0.75	7.5					
		0.4	5-20		0.82						
		0.8	10-15	0.18							

TABLE 8.7.1.2.16

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: S.S.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.1	1-10		1.97	17.58	143.62	100.0

TABLE 8.7.1.2.17

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	2-20		1.53	20.89			
T73651	PLATE	0.08	1			13.33			
		0.1	1-10		1.12	16.19	97.04		

TABLE 8.7.1.2.18

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.03	18.3			7.56	101.74		
		0.33	18.3			16.78			
T73652	FORGING	0.33	18.3			29.86			
T76	SHEET	0.33	13.3			26.19			
T76511	EXTRUSION	0.33	18.3			22.43			

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TABLE 8.7.1.2.19

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7351X	EXTRUSION	0.33	20		1.06	10.76		
								100.0

TABLE 8.7.1.2.20

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7351X	EXTRUSION	0.33	20		0.7	3.33		
								100.0

TABLE 8.7.1.2.21

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-T**ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.1	1-10			6.44	91.86	
								100.0

TABLE 8.7.1.2.22

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-T

ENVIRONMENT: S.S.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	<i>FCGR (10^{-6} in/cycle)</i>				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.1	1-10		1.56	20.07	190.92	100.0

TABLE 8.7.1.2.23

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-L		ENVIRONMENT: Dry Air						
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7351	PLATE	0.33	1.5-15			7.62		
								100.0

TABLE 8.7.1.2.24

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-L

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.33	10-20			12.42			
T73651	PLATE	0.33	18.3			12.5			

TABLE 8.7.1.2.25

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-L

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73651	PLATE	0.33	18.3				4.05		

TABLE 8.7.1.2.26

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE

ORIENTATION: S-L

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7351	PLATE	0.33	20			19.67		
								100.0

TABLE 8.7.1.2.27

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: S-L

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T73651	PLATE	0.33	18.3			15.52		100.0

TABLE 8.7.1.2.28

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 AT ROOM TEMPERATURE**

ORIENTATION: Unspecified

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T736	FORGING	0.1	1			18.1			
T73651	PLATE	0.1	1			22.62			
T7651	PLATE	0.1	1			21.41			

TABLE 8.7.2.1

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K ₀₁ (K ₀₁ • √in.)	K ₀₁ MEAN	STAN DEV		
T7351	Plate	2.00	R.T.	L-T	60.4	4.000	2.000	CT	2.020	1.29	43.40	34.8	3.9	1977	AL001
		6.00			60.4	4.000	2.000	CT	2.050	0.77	33.60			1977	AL001
		6.00			60.4	4.000	2.000	CT	2.040	0.77	33.50			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.010	1.18	41.50			1977	AL001
		6.00			60.4	4.000	2.000	CT	2.060	0.77	33.60			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.010	1.27	43.00			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.030	1.03	39.30			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.020	1.04	39.50			1977	AL001
		2.00			61.1	4.000	2.000	CT	2.030	1.03	39.30			1977	AL001
		6.00			62.2	4.000	2.000	CT	2.020	0.53	28.60			1977	AL001
		6.00			62.2	4.000	2.000	CT	2.040	0.54	28.90			1977	AL001
		6.00			62.2	4.000	2.000	CT	2.010	0.55	29.10			1977	AL001
		5.12			63.2	4.000	2.000	CT	2.000	0.55	29.70			1977	AL001
		5.12			63.2	4.000	1.980	CT	2.000	0.54	29.30			1977	AL001
		5.12			63.2	4.000	2.000	CT	2.000	0.54	29.30			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.060	0.72	34.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.060	0.72	34.20			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.030	0.69	33.40			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.050	0.68	33.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.050	0.78	35.50			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.75	34.80			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.72	34.30			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.090	0.82	36.40			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B			DESIGN	K _{1c} (Ksi • √in.)	K _{1c} MEAN			STAN DEV
T7351 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	L-T Cont'd	63.7	4.000	2.000	CT	2.060	0.71	34.00	Cont'd	Cont'd	1977	AL001
		4.00			63.7	4.000	2.000	CT	2.080	0.72	34.30			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.76	35.00			1977	AL001
		4.00			63.7	4.000	2.000	CT	2.060	0.82	36.50			1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.75	35.10			1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.79	35.90			1977	AL001
		3.00			63.9	3.000	1.500	CT	1.570	0.73	34.50			1977	AL001
		1.00			69.8	2.000	1.004	CT	1.000	0.70	36.90			1974	88186
		6.00			59.1	4.000	2.000	CT	2.080	0.63	29.60			1977	AL001
		6.00			59.1	4.000	2.000	CT	2.090	0.66	30.30			1977	AL001
T7351	Plate	6.00	R.T.	T-L	59.1	4.000	2.000	CT	2.070	0.64	29.80	30.0	2.6	1977	AL001
		2.00			60.4	4.000	2.000	CT	2.060	0.82	34.50			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.070	0.82	34.60			1977	AL001
		2.00			60.4	4.000	2.000	CT	2.060	0.87	35.60			1977	AL001
		6.00			60.9	4.000	2.000	CT	2.060	0.47	26.30			1977	AL001
		6.00			60.9	4.000	2.000	CT	2.080	0.48	26.60			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.070	0.71	32.40			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.070	0.72	32.60			1977	AL001
		2.00			60.9	4.000	2.000	CT	2.060	0.70	32.20			1977	AL001
		6.00			60.9	4.000	2.000	CT	2.060	0.48	26.70			1977	AL001
		5.12			61.4	4.000	2.000	CT	2.020	0.41	24.90			1977	AL001
		5.12			61.4	4.000	2.000	CT	2.060	0.41	25.00			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} • (K _{1c} • √in.)	K _{1c} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	T-L Cont'd	63.4	4.000	2.000	CT	2.080	0.54	29.40	Cont'd	Cont'd	1977	AL001
		4.00			63.4	4.000	2.000	CT	2.090	0.59	30.80			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.100	0.58	30.50			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.040	0.54	29.40			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.090	0.51	28.60			1977	AL001
		4.00			63.4	4.000	2.000	CT	2.100	0.58	30.60			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.560	0.57	30.30			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.120	0.53	29.40			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.580	0.55	30.00			1977	AL001
		3.00			63.7	3.000	1.500	CT	1.580	0.55	29.90			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.110	0.54	29.70			1977	AL001
		5.00			63.7	4.000	2.000	CT	2.100	0.53	29.40			1977	AL001
T7351	Plate	3.00	R.T.	S-L	64.2	3.000	1.500	CT	1.590	0.55	30.10	28.0	1.3	1977	AL001
		3.00			64.2	3.000	1.500	CT	1.590	0.56	30.40			1977	AL001
		3.00			64.2	3.000	1.500	CT	1.600	0.57	30.60			1977	AL001
		2.00			55.3	1.500	0.750	CT	0.770	0.73	29.90			1977	AL001
		2.00			55.3	1.500	0.750	CT	0.770	0.68	28.80			1977	AL001
		2.00			55.3	1.500	0.750	CT	0.770	0.73	29.90			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.770	0.61	27.50			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.770	0.55	26.00			1977	AL001
		2.00			55.6	1.500	0.750	CT	0.780	0.62	27.70			1977	AL001
		6.00			56.3	3.000	1.500	CT	1.510	0.69	29.50			1977	AL001
		6.00			56.3	3.000	1.500	CT	1.510	0.69	29.50			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TVS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	6.00	R.T. Cont'd	S.L. Cont'd	56.3	3.000	1.500	CT	1.520	0.70	29.70	Cont'd	Cont'd	1977	AL001
		6.00			56.3	3.000	1.500	CT	1.520	0.66	28.90			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.550	0.53	26.80			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.530	0.50	26.10			1977	AL001
		6.00			58.1	3.000	1.500	CT	1.540	0.53	26.70			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.500	0.47	25.50			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.520	0.50	26.20			1977	AL001
		5.12			58.6	3.000	1.500	CT	1.530	0.49	26.00			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.540	0.50	28.90			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.520	0.58	28.20			1977	AL001
		5.00			58.8	3.000	1.500	CT	1.530	0.56	27.90			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.58	28.50			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.55	27.70			1977	AL001
		4.00			59.0	3.000	1.500	CT	1.530	0.52	29.40			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.540	0.59	29.20			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.530	0.59	29.10			1977	AL001
		4.00			60.0	3.000	1.500	CT	1.540	0.58	28.90			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.280	0.51	27.20			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.280	0.50	27.00			1977	AL001
		3.00			60.1	2.500	1.250	CT	1.270	0.53	27.80			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.270	0.53	28.30			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.270	0.48	27.00			1977	AL001
		3.00			61.4	2.500	1.250	CT	1.280	0.53	28.40			1977	AL001

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /T _{1c}) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73511-HIGH/PURITY	Extruded Bar	1.50	R.T.	L-T	72.1	2.500	1.250	CT	---	0.71	38.40	36.2	3.2	1980	WA001
		1.50				2.500	1.250	CT	0.55	33.90	1980	WA001			
T73511-HIGH/PURITY	Extruded Bar	1.50	R.T.	T-L	66.6	2.500	1.250	CT	---	0.33	24.20	24.1	0.2	1980	WA001
		1.50				2.500	1.250	CT	0.32	23.90	1980	WA001			
T7352	Forging	6.00	R.T.	S-L	62.4	4.000	2.000	CT	2.148	0.25	19.80	---	---	1973	86213
T7352	Forging	5.00	82	L-T	64.0	3.000	1.502	CT	1.510	0.63	32.00	---	---	1973	86213
T7352	Forging	5.00	82	T-L	62.1	3.000	1.502	CT	1.588	0.21	18.00	18.3	0.4	1973	86213
		5.00				3.000	1.502	CT	0.22	18.50	1973	86213			
T7352	Forging	5.00	82	S-L	59.0	3.000	1.501	CT	1.574	0.34	21.90	21.9	0.0	1973	86213
		5.00				3.000	1.502	CT	0.34	21.90	1973	86213			
T736	Forging	3.00	R.T.	L-T	63.6	1.996	1.000	CT	1.047	0.58	30.79	32.3	2.3	1976	NC001
		3.00				1.998	1.001	CT	1.054	0.62	31.70	1976	NC001		
		3.00				2.001	1.001	CT	1.049	0.59	31.11	1976	NC001		
		---				1.400	0.696	CT	0.674	0.66	35.70	1973	85880		
T736	Forging	6.00	R.T.	T-L	61.4	4.000	1.506	CT	---	0.35	22.90	23.4	1.0	1973	91123
		3.00				2.003	1.001	CT	1.082	0.39	24.82	1976	NC001		
		3.00				2.001	0.989	CT	1.054	0.35	23.44	1976	NC001		
		3.00				1.996	0.999	CT	1.042	0.32	22.40	1976	NC001		
T736	Forging	3.00	R.T.	S-T	61.2	2.002	1.000	CT	1.060	0.41	24.84	24.3	1.0	1976	NC001
		3.00				2.000	1.000	CT	1.050	0.35	23.08	1976	NC001		
		3.00				1.999	1.000	CT	1.070	0.41	24.90	1976	NC001		

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) √(in.)	K _{1c} MEAN	STAN DEV		
T736	Forging	6.00	R.T.	S-L	62.4	4.000	1.509	CT	---	0.41	25.30	24.6	0.6	1973	91123
		6.00			62.4	4.000	1.509	CT	---	0.39	24.60			1973	91123
		6.00			62.4	---	2.000	CT	1.930	0.41	25.30			1973	86212
		6.00			62.4	4.000	1.509	CT	---	0.37	24.00			1973	91123
		6.00			62.4	---	2.000	CT	1.980	0.39	24.60			1973	86212
		6.00			62.4	---	2.000	CT	1.950	0.37	24.00			1973	86212
T736	Forging	---	R.T.	C-L	68.5	1.390	0.702	CT	0.687	0.47	29.80	30.2	0.5	1973	85880
		---			68.5	1.400	0.699	CT	0.693	0.49	30.50			1973	85880
T736	Forging	6.00	82	L-T	61.9	3.000	1.499	CT	1.608	1.27	44.10	36.8	6.9	1973	86213
		7.10			63.5	2.000	0.999	CT	0.982	0.47	27.60			1973	86213
		7.10			65.1	2.000	1.001	CT	1.015	0.79	36.60			1973	86213
		4.25			69.3	3.000	1.499	CT	1.617	0.78	38.70			1973	86213
T736	Forging	6.00	82	T-L	66.5	0.990	0.499	CT	0.512	0.22	19.70	---	---	1973	86213
T736	Forging	7.10	82	S-L	63.4	2.000	0.999	CT	1.020	0.28	21.20	23.0	2.8	1973	86213
		7.10			63.4	2.000	0.999	CT	1.012	0.27	20.90			1973	86213
		6.00			64.2	2.000	1.000	CT	1.051	0.42	26.20			1973	86213
		6.00			64.2	2.000	0.999	CT	1.058	0.44	26.80			1973	86213
		7.10			64.2	2.000	0.999	CT	0.996	0.27	21.10			1973	86213
		0.60			64.5	1.500	0.635	CT	0.763	0.28	21.50			1973	86213
T73651	Plate	1.00	-65	L-T	75.7	2.000	1.005	CT	1.030	0.53	34.90	35.1	0.2	1974	88174
		1.00			75.7	2.000	1.003	CT	1.039	0.54	35.20			1974	88174
T73651	Plate	1.00	-65	T-L	75.0	2.000	1.006	CT	1.048	0.41	30.40	30.2	0.3	1974	88174
		1.00			75.0	2.000	1.005	CT	1.027	0.40	30.00			1974	88174

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651	Plate	1.00	0	L-T	73.4	2.000	1.005	CT	1.028	0.61	36.40	37.2	1.1	1974	88174
		1.00			73.4	1.990	1.003	CT	1.040	0.67	38.00			1974	88174
T73651	Plate	1.00	0	T-L	72.7	2.000	1.005	CT	1.037	0.47	31.60	31.3	0.2	1974	88174
		1.00			72.7	2.000	1.004	CT	1.024	0.46	31.30			1974	88174
		1.00			72.7	2.000	1.004	CT	1.028	0.46	31.20			1974	88174
		1.00			72.7	2.000	1.007	CT	1.030	0.46	31.20			1974	88174
		5.25			58.9	1.998	1.001	CT	0.992	0.71	31.40			1977	RA010
T73651	Plate	5.25	R.T.	L-T	59.3	2.000	0.999	CT	0.963	0.67	30.90	31.9	3.9	1977	RA010
		5.00			60.3	4.000	2.010	CT	2.040	0.57	28.70			1975	AL015
		5.00			60.3	4.000	2.010	CT	2.060	0.57	28.90			1975	AL015
		6.00			61.0	2.000	1.001	CT	0.972	0.57	29.20			1977	RA009
		4.50			61.2	2.003	1.001	CT	0.962	0.57	29.29			1977	RA010
		5.25			61.3	1.999	1.000	CT	0.935	0.57	29.40			1977	RA010
		6.00			61.6	2.000	1.000	CT	0.966	0.76	34.00			1977	RA009
		6.00			61.7	1.997	0.999	CT	1.006	0.59	30.10			1977	RA009
		6.00			61.7	2.000	0.999	CT	0.962	0.59	30.10			1977	RA009
		5.25			62.0	1.999	0.997	CT	0.948	0.56	29.40			1977	RA010
		5.25			62.0	1.999	1.000	CT	0.950	0.60	30.40			1977	RA010
		6.00			62.2	1.998	0.998	CT	1.015	0.52	28.50			1977	RA009
		5.25			62.2	2.000	0.998	CT	0.993	0.55	29.29			1977	RA010
		5.25			62.3	2.000	0.999	CT	0.980	0.55	29.40			1977	RA010
		5.25			62.5	2.003	1.001	CT	0.989	0.51	28.29			1977	RA010
		6.00			62.7	1.997	1.000	CT	0.959	0.50	28.20			1977	RA009

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	6.00	R.T. Cont'd	L-T Cont'd	62.7	1.999	1.001	CT	0.981	0.51	28.40	Cont'd	Cont'd	1977	RA009
		4.50			62.9	2.999	1.502	CT	1.492	0.87	32.59			1978	RA008
		5.25			63.1	1.998	0.999	CT	0.973	0.54	28.40			1977	RA010
		6.00			63.3	2.001	1.000	CT	0.963	0.57	30.29			1977	RA009
		6.00			63.4	1.998	1.001	CT	0.964	0.48	28.00			1977	RA009
		5.25			63.5	1.999	0.997	CT	0.993	0.54	29.70			1977	RA010
		6.00			63.6	2.001	1.001	CT	0.979	0.50	28.60			1977	RA009
		4.50			63.6	3.002	1.499	CT	1.530	0.54	29.70			1978	RA008
		5.00			63.7	4.000	2.000	CT	2.090	0.41	25.70			1975	AL015
		5.00			63.7	4.000	2.000	CT	2.080	0.40	25.50			1975	AL015
		6.00			63.8	2.000	1.000	CT	0.975	0.76	35.30			1977	RA009
		5.25			63.8	1.999	0.999	CT	0.972	0.53	29.40			1977	RA010
		6.00			63.8	1.999	1.001	CT	0.971	0.48	28.20			1977	RA009
		5.25			63.9	1.999	1.000	CT	0.966	0.48	28.10			1977	RA010
		4.50			63.9	2.999	1.498	CT	1.531	0.46	27.50			1978	RA008
		2.75			63.9	2.003	0.999	CT	1.000	0.53	29.60			1977	RA010
		5.25			64.0	2.003	1.000	CT	0.965	0.49	28.60			1977	RA010
		4.00			64.2	1.999	1.001	CT	1.008	0.46	27.79			1977	RA010
		4.00			64.4	1.998	0.997	CT	1.052	0.80	36.59			1977	RA009
		4.00			64.7	1.998	1.001	CT	1.010	0.57	31.10			1977	RA009
		4.00			65.0	3.000	1.502	CT	1.543	0.55	30.40			1973	85836
		4.00			65.0	3.000	1.499	CT	1.569	0.41	26.30			1973	85836

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ¹ (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	4.00	R.T. Cont'd	L-T Cont'd	65.4	1.998	0.997	CT	0.980	0.78	36.70	Cont'd	Cont'd	1977	RA009
		6.00			65.4	2.000	1.001	CT	1.040	0.60	32.30			1977	RA009
		4.00			65.9	1.998	0.998	CT	1.001	0.59	32.09			1977	RA009
		3.00			66.9	2.010	1.000	CT	1.010	0.38	26.10			1973	86429
		3.00			66.9	1.990	1.000	CT	1.014	0.44	28.20			1973	86429
		3.00			66.9	2.000	1.000	CT	1.018	0.42	27.30			1973	86429
		4.00			67.2	2.490	1.250	CT	1.279	0.74	36.80			1972	84363
		4.00			67.2	1.998	0.998	CT	1.003	0.73	36.50			1977	RA009
		4.00			67.2	1.998	0.997	CT	1.091	0.54	31.50			1977	RA009
		4.00			67.2	2.490	1.248	CT	1.234	0.64	34.20			1972	84363
		4.00			67.2	2.490	1.255	CT	1.264	0.67	35.00			1972	84363
		3.50			67.4	3.001	1.500	CT	1.455	0.59	33.00			1978	RA008
		2.00			67.8	1.998	0.994	CT	0.998	0.59	33.09			1977	RA009
		4.00			67.8	1.997	0.996	CT	1.009	0.51	30.79			1977	RA009
		3.50			67.8	3.000	1.496	CT	1.455	0.46	29.20			1978	RA008
		3.50			68.3	1.997	0.998	CT	1.091	0.63	34.50			1977	RA009
		3.50			68.5	1.998	0.997	CT	1.042	0.56	32.70			1977	RA009
		6.00			68.6	2.001	1.001	CT	0.941	0.58	33.09			1977	RA009
		3.15			69.0	2.001	1.007	CT	1.009	0.34	25.80			1976	NC001
		3.15			69.0	2.002	1.007	CT	0.993	0.34	25.72			1976	NC001
		3.15			69.0	2.002	1.007	CT	1.005	0.34	25.54			1976	NC001
		2.50			69.1	2.000	0.999	CT	1.027	0.45	29.60			1978	RA010

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 * (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi * √in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	3.00	R.T. Cont'd	L-T Cont'd	69.6	2.003	1.001	CT	0.958	0.65	35.70	Cont'd	Cont'd	1977	RA010
		1.00			70.0	2.000	1.003	CT	1.027	0.71	37.40			1974	88174
		1.00			70.0	2.000	1.003	CT	1.035	0.65	35.70			1974	88174
		1.00			70.0	2.000	1.004	CT	1.034	0.69	36.80			1974	88174
		1.00			70.0	2.000	0.976	CT	---	0.65	36.00			1982	NC003
		1.00			70.0	2.000	0.976	CT	---	0.65	36.00			1982	NC003
		2.50			70.2	2.000	0.999	CT	1.076	0.40	28.29			1978	RA010
		1.00			70.8	2.000	1.003	CT	1.009	0.64	35.70			1973	86213
		1.00			70.8	2.000	0.998	CT	1.028	0.60	34.70			1973	86213
		1.00			70.8	2.000	0.998	CT	1.034	0.64	35.70			1973	86213
		2.00			71.6	1.998	0.992	CT	1.034	0.48	31.50			1977	RA009
		1.00			73.8	2.000	1.000	NB	0.964	0.62	36.90			1973	86493
		1.00			73.8	2.000	1.000	NB	0.992	0.61	36.40			1973	86493
		1.00			73.8	2.000	1.000	NB	0.990	0.66	37.80			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
		1.00			73.8	2.000	1.000	NB	1.010	0.70	39.10			1973	86493
		1.00			73.8	2.000	1.000	NB	1.010	0.70	39.10			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
		1.00			73.8	2.000	1.000	NB	0.964	0.62	36.90			1973	86493
		1.00			73.8	2.000	1.000	NB	0.992	0.61	36.40			1973	86493
		1.00			73.8	2.000	1.000	NB	1.000	0.65	37.70			1973	86493
1.00	73.8	2.000	1.000	NB	1.000	0.65	37.70	1973	86493						

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}																
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TVS) ² (in.)	K _{1c}			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV			
T73651 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	L-T Cont'd	73.8	2.000	1.000	NB	0.990	0.65	37.80	Cont'd	Cont'd	1973	86493	
		1.00			75.0	2.490	1.003	CT	1.315	0.51	33.90			1973	86574	
		1.00			75.0	2.500	1.003	CT	1.260	0.48	32.90			1973	86574	
		5.25	T73651	R.T.	T-L	59.0	1.999	1.001	CT	0.969	0.40	23.60	28.7	4.7	1977	RA010
		5.00				59.1	4.000	2.010	CT	2.130	0.47	25.70			1975	AL015
		5.00				59.1	4.000	2.000	CT	2.100	0.43	24.50			1975	AL015
		4.50				59.2	1.999	1.002	CT	0.983	0.59	28.90			1977	RA010
		5.25				59.9	2.000	0.998	CT	0.970	0.35	22.50			1977	RA010
		5.00				60.1	4.000	2.000	CT	2.130	0.41	24.40			1975	AL015
6.00	60.1	2.002				1.002	CT	0.986	0.59	29.40	1977	RA009				
5.00	60.1	4.000				2.010	CT	2.080	0.43	24.50	1975	AL015				
5.25	60.2	2.003	1.000	CT	1.001	0.36	23.00	1977	RA010							
T73651	Plate	6.00	R.T.	T-L	60.4	1.998	1.001	CT	1.018	0.56	28.60	28.7	4.7	1977	RA009	
		5.25			60.5	1.999	0.999	CT	0.997	0.34	22.40			1977	RA010	
		6.00			60.5	1.998	0.999	CT	1.030	0.55	28.50			1977	RA009	
		6.00	60.6	1.997	0.999	CT	0.991	0.46	26.20	1977	RA009					
		6.00	60.7	2.001	1.001	CT	0.979	0.54	28.40	1977	RA009					
		5.25	61.1	1.999	0.998	CT	0.996	0.33	22.20	1977	RA010					
		6.00	61.1	1.998	1.000	CT	1.027	0.53	28.10	1977	RA009					
		6.00	61.4	1.999	1.000	CT	0.988	0.71	32.80	1977	RA009					
		5.25	61.4	2.003	1.000	CT	1.015	0.43	25.70	1977	RA010					
5.25	61.6	2.000	1.000	CT	0.996	0.33	22.70	1977	RA010							

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS) ¹ (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) √(in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	4.50	R.T. Cont'd	T-L Cont'd	61.7	3.000	1.500	CT	1.483	0.77	34.30	Cont'd	Cont'd	1978	RA008
		6.00			61.8	2.000	1.000	CT	0.968	0.50	27.70			1977	RA009
		4.00			61.8	1.998	0.997	CT	1.006	0.60	30.29			1977	RA009
		6.00			61.8	2.000	1.001	CT	0.987	0.50	27.79			1977	RA009
		4.00			62.0	1.998	0.998	CT	0.994	0.57	29.70			1977	RA009
		5.25			62.1	2.000	1.000	CT	1.001	0.35	23.50			1977	RA010
		5.25			62.3	2.003	1.000	CT	0.997	0.39	24.70			1977	RA010
		5.25			62.4	2.001	0.999	CT	0.994	0.31	22.20			1977	RA010
		5.25			62.5	2.003	1.002	CT	1.006	0.30	22.00			1977	RA010
		4.00			62.6	1.998	0.998	CT	0.990	0.48	27.50			1977	RA009
		6.00			62.7	1.999	1.001	CT	0.968	0.50	28.20			1977	RA009
		6.00			62.7	2.001	1.001	CT	0.971	0.48	27.60			1977	RA009
		6.00			62.9	2.002	1.001	CT	0.955	0.49	27.90			1977	RA009
		4.00			62.9	1.999	1.000	CT	1.049	0.33	22.90			1977	RA010
		4.00			62.9	1.999	1.000	CT	1.049	0.33	22.90			1977	RA010
		4.00			63.2	1.997	1.000	CT	1.007	0.50	28.29			1977	RA009
		5.25			63.2	1.999	1.000	CT	0.989	0.30	22.10			1977	RA010
		2.75			63.4	2.003	0.989	CT	1.025	0.43	26.29			1977	RA010
		5.25			63.7	1.998	1.001	CT	0.993	0.28	21.40			1977	RA010
		6.00			63.9	1.999	1.000	CT	0.978	0.77	35.50			1977	RA009
		4.00			64.1	1.998	0.999	CT	0.964	0.65	32.90			1977	RA009
		5.25			64.1	1.999	0.999	CT	0.962	0.33	23.60			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{IC}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{IC}) _{YS} ^a (in.)	K _{IC}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{IC} (Ksi • √in.)	K _{IC} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	4.50	R.T. Cont'd	T-L Cont'd	64.3	3.002	1.490	CT	1.480	0.62	32.20	Cont'd	Cont'd	1978	RA008
		6.00			64.6	2.000	1.001	CT	0.961	0.51	29.40			1977	RA009
		6.00			64.6	2.001	0.999	CT	0.958	0.46	28.00			1977	RA009
		6.00			64.6	2.000	1.000	CT	0.964	0.51	29.40			1977	RA009
		4.00			65.0	2.990	1.502	CT	1.555	0.40	26.10			1973	85836
		4.00			65.0	3.000	1.499	CT	1.564	0.42	26.70			1973	85836
		6.00			65.0	1.997	0.999	CT	1.032	0.42	26.90			1977	RA009
		4.00			65.0	3.000	1.500	CT	1.540	0.54	30.30			1973	85836
		5.25			65.3	1.999	0.997	CT	0.969	0.27	21.50			1977	RA010
		4.00			65.5	1.997	0.999	CT	1.005	0.41	26.79			1977	RA009
		3.50			66.1	1.998	0.998	CT	1.050	0.44	28.00			1977	RA009
		3.50			66.2	3.000	1.499	CT	1.494	0.45	28.10			1978	RA008
		3.50			67.4	1.997	0.996	CT	1.032	0.44	28.40			1977	RA009
		3.50			67.5	3.000	1.501	CT	1.541	0.38	26.60			1978	RA008
		3.50			67.6	1.998	0.999	CT	1.073	0.35	25.40			1977	RA009
		2.00			68.2	1.998	0.994	CT	1.009	0.50	30.70			1977	RA009
		3.15			68.9	2.001	1.007	CT	1.019	0.35	25.91			1976	NC001
		3.15			68.9	2.001	1.007	CT	1.012	0.37	26.60			1976	NC001
		3.15			68.9	2.001	1.007	CT	1.031	0.31	24.55			1976	NC001
		3.00			68.9	2.003	1.000	CT	1.015	0.52	31.60			1977	RA010
		2.00			69.2	1.998	0.994	CT	1.030	0.41	28.29			1977	RA009
		2.50			69.7	2.001	0.999	CT	1.039	0.26	22.50			1978	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH (in.) A	2.5 • (K _{1c} /T ₀) ^{1/2} (in.)	K _{1c}			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B			DESIGN	K _{1c} (Ksi • √in.)	K _{1c} MEAN			STAN DEV
T73651 Cont'd	Plate Cont'd	1.00	R.T. Cont'd	T.L. Cont'd	69.8	2.000	0.999	CT	1.035	0.54	32.40	Cont'd	Cont'd	1973	86213
		1.00			69.8	2.000	0.998	CT	1.032	0.49	31.00			1973	86213
		1.00			70.0	2.000	1.003	CT	1.032	0.49	31.00			1973	86213
		1.00			70.0	2.000	1.003	CT	1.030	0.52	31.80			1973	86213
		2.50			70.7	2.000	0.999	CT	1.094	0.35	26.79			1978	RA010
		1.00			72.2	2.000	1.004	CT	1.036	0.50	32.40			1974	88174
		1.00			72.2	2.000	1.005	CT	1.038	0.49	32.10			1974	88174
		1.00			72.2	2.000	1.005	CT	1.030	0.50	32.30			1974	88174
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	0.997	0.64	36.70			1973	86493
		1.00			72.5	2.000	1.000	NB	0.978	0.68	37.80			1973	86493
		1.00			72.5	2.000	1.000	NB	0.978	0.68	37.80			1973	86493
		1.00			72.5	2.000	1.000	NB	0.990	0.63	36.30			1973	86493
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	0.963	0.65	36.90			1973	86493
		1.00			72.5	2.000	1.000	NB	1.000	0.67	37.70			1973	86493
		1.00			72.5	2.000	1.000	NB	1.000	0.68	37.70			1973	86493
		1.00			72.5	2.000	1.000	NB	0.990	0.63	36.30			1973	86493
		1.00			72.5	2.000	1.000	NB	0.997	0.64	36.80			1973	86493

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651	Plate	6.00	R.T.	S-T	55.8	2.000	1.001	CT	1.023	0.52	25.60	23.9	1.9	1977	RA009
		6.00			56.2	1.998	1.000	CT	1.077	0.60	27.60			1977	RA009
		6.00			56.4	1.999	1.000	CT	1.029	0.49	25.10			1977	RA009
		6.00			56.6	2.000	1.002	CT	1.035	0.44	24.00			1977	RA009
		6.00			56.8	2.001	1.001	CT	1.001	0.42	23.40			1977	RA009
		6.00			57.1	2.000	1.000	CT	0.947	0.53	26.40			1977	RA009
		6.00			57.6	2.001	1.002	CT	1.033	0.44	24.40			1977	RA009
		6.00			57.6	1.997	0.999	CT	0.993	0.36	22.10			1977	RA009
		6.00			58.1	1.997	1.001	CT	0.994	0.49	25.80			1977	RA009
		6.00			58.1	1.996	1.002	CT	1.035	0.59	28.40			1977	RA009
		6.00			58.4	2.000	1.000	CT	1.017	0.51	26.50			1977	RA009
		6.00			58.6	1.998	1.000	CT	0.975	0.35	22.10			1977	RA009
		6.00			58.7	2.000	1.000	CT	1.034	0.42	24.20			1977	RA009
		6.00			58.8	2.001	1.000	CT	1.066	0.44	24.79			1977	RA009
		6.00			59.0	2.001	1.000	CT	1.028	0.37	23.00			1977	RA009
		6.00			59.5	1.997	0.997	CT	0.996	0.38	23.50			1977	RA009
		6.00			60.5	2.000	1.000	CT	1.020	0.36	23.10			1977	RA009
		6.00			60.7	2.000	1.000	CT	1.048	0.40	24.50			1977	RA009
		4.00			61.0	1.998	0.998	CT	0.976	0.38	23.90			1977	RA009
		4.00			61.2	1.998	0.999	CT	0.996	0.46	26.40			1977	RA009
		4.00			61.6	1.998	0.996	CT	0.976	0.45	26.20			1977	RA009
		4.00			62.9	1.998	0.996	CT	0.963	0.36	23.90			1977	RA009
		4.00			64.1	1.998	0.994	CT	1.026	0.31	22.79			1977	RA009

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (K _{1c} ° √(in.))	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	3.50	R.T. Cont'd	S-T Cont'd	64.2	1.998	0.999	CT	0.938	0.32	23.00	Cont'd	Cont'd	1978	RA008
		3.15			64.3	2.002	1.007	CT	1.020	0.24	20.33			1976	NC001
		3.15			64.3	2.002	1.007	CT	1.038	0.30	22.52			1976	NC001
		3.15			64.3	2.002	1.007	CT	1.066	0.25	20.73			1976	NC001
		2.50			64.8	2.001	0.999	CT	1.056	0.28	21.90			1978	RA010
		4.00			65.4	1.998	0.998	CT	0.979	0.27	21.79			1977	RA009
		3.50			65.9	2.000	0.998	CT	0.956	0.31	23.29			1978	RA008
		2.50			66.3	2.001	0.999	CT	1.028	0.30	23.00			1978	RA010
		3.50			66.3	1.997	0.997	CT	1.034	0.32	23.90			1977	RA009
		3.50			66.5	1.998	0.998	CT	1.060	0.31	23.60			1977	RA009
		3.50			67.1	1.997	0.995	CT	1.018	0.28	22.50			1977	RA009
		5.25			55.2	1.999	0.999	CT	0.924	0.43	22.90			1977	RA010
T73651	Plate	4.50	R.T.	S-L	56.1	2.003	1.000	CT	1.033	0.46	24.29	23.5	1.5	1977	RA010
		2.75			56.6	2.003	0.999	CT	0.982	0.44	23.79			1977	RA010
		5.25			56.8	2.003	1.000	CT	0.950	0.39	22.60			1977	RA010
		5.00			56.8	4.000	2.010	CT	2.070	0.47	24.70			1975	AL015
		5.00			56.8	4.000	2.010	CT	2.070	0.47	24.70			1975	AL015
		5.25			56.9	2.000	0.998	CT	1.005	0.40	22.79			1977	RA010
		5.25			57.0	1.999	1.000	CT	0.933	0.42	23.40			1977	RA010
		5.25			57.0	1.999	0.998	CT	0.944	0.41	23.20			1977	RA010
		5.25			57.1	1.999	0.999	CT	0.941	0.36	21.90			1977	RA010
		5.25			57.6	2.003	1.001	CT	0.946	0.40	23.29			1977	RA010
		5.25			57.8	2.003	1.001	CT	0.990	0.42	23.70			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	5.25	R.T. Cont'd	S.L Cont'd	58.0	2.003	1.000	CT	0.959	0.36	22.29	Cont'd	Cont'd	1977	RA010
		5.25			58.0	2.000	0.999	CT	0.938	0.42	23.90			1977	RA010
		5.25			58.1	2.003	0.970	CT	0.969	0.41	23.70			1977	RA010
		5.25			58.3	1.999	0.997	CT	0.968	0.43	24.40			1977	RA010
		5.25			58.6	2.000	1.000	CT	0.955	0.38	23.10			1977	RA010
		5.25			58.9	2.000	0.998	CT	0.966	0.37	22.79			1977	RA010
		6.00			59.3	4.000	2.000	CT	2.030	0.37	22.80			1975	AL015
		5.00			59.3	4.000	2.000	CT	2.030	0.37	22.90			1975	AL015
		5.25			59.6	1.999	1.002	CT	0.952	0.32	21.50			1977	RA010
		4.50			60.3	3.002	1.497	CT	1.550	0.44	25.29			1978	RA008
		5.25			60.6	1.998	0.999	CT	0.952	0.33	22.29			1977	RA010
		5.25			61.7	1.999	0.999	CT	0.990	0.28	20.79			1977	RA010
		4.00			61.7	2.003	0.999	CT	0.974	0.31	21.90			1977	RA010
		5.25			62.0	1.999	0.998	CT	0.937	0.29	21.40			1977	RA010
		4.00			63.7	2.980	1.500	CT	1.469	0.37	24.50			1973	86213
		4.00			63.7	2.990	1.500	CT	1.507	0.43	26.40			1973	86213
		3.00			64.0	1.990	1.000	CT	1.029	0.34	23.50			1973	86429
		3.00			64.0	2.000	1.000	CT	1.025	0.31	22.70			1973	86429
		3.00			64.0	1.990	1.000	CT	1.034	0.31	22.60			1973	86429
		4.00			65.0	3.000	1.502	CT	1.519	0.37	25.10			1973	85836
		4.00			65.0	3.000	1.501	CT	1.550	0.36	24.80			1973	85836
		4.00			65.0	3.000	1.500	CT	1.531	0.39	25.80			1973	85836
		3.00			66.4	2.003	1.001	CT	0.970	0.45	28.20			1977	RA010

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K ₁₀															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ /TYS) (in.)	K ₁₀			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K ₀₁ • (K ₀₁ • √in.)	K ₀₁ MEAN	STAN DEV		
T73651	Plate	2.00	81	S-L	64.2	1.490	0.749	CT	0.760	0.40	25.60	25.6	0.0	1973	86213
		2.00			64.2	1.500	0.749	CT	0.743	0.40	25.60			1973	86213
	Plate	4.00	82	L-T	63.7	4.000	1.998	CT	2.099	0.64	32.30	33.9	2.4	1973	86213
		4.00			63.7	4.000	1.998	CT	2.091	0.67	32.90			1973	86213
		4.00			65.2	4.000	1.986	CT	2.145	0.55	30.70			1973	86213
T73651	Plate	4.00	82	L-T	65.2	3.990	1.999	CT	2.155	0.57	31.20	33.9	2.4	1973	86213
		2.00			65.9	4.000	1.997	CT	2.115	0.75	36.10			1973	86213
		2.00			65.9	4.000	1.997	CT	2.138	0.77	36.60			1973	86213
		2.00			67.0	4.000	1.996	CT	2.132	0.70	35.40			1973	86213
		2.00			67.0	4.000	1.997	CT	2.136	0.71	35.70			1973	86213
T73651	Plate	4.00	82	T-L	63.2	4.000	1.999	CT	2.126	0.46	27.10	27.9	1.2	1973	86213
		4.00			63.2	4.000	1.998	CT	2.167	0.47	27.30			1973	86213
		4.00			64.4	4.000	1.998	CT	2.124	0.41	26.20			1973	86213
		4.00			64.4	3.990	2.000	CT	2.109	0.43	26.60			1973	86213
		2.00			65.7	4.000	1.998	CT	2.156	0.49	29.20			1973	86213
T73651	Plate	2.00	82	T-L	65.7	4.000	1.997	CT	2.166	0.50	29.40	27.9	1.2	1973	86213
		2.00			65.7	4.000	1.998	CT	2.166	0.46	28.80			1973	86213
		2.00			67.4	4.000	1.998	CT	2.123	0.46	28.50			1973	86213
		2.00			67.4	4.000	1.997	CT	2.130	0.45	28.50			1973	86213
		1.00			65.4	2.000	0.999	CT	1.003	0.58	31.50			1973	86213
T73651	Plate	1.00	84	L-T	65.4	2.000	0.998	CT	1.020	0.60	32.00	31.8	0.4	1973	86213
		1.00			65.4	2.000	0.999	CT	0.974	0.39	25.90			1973	86213
T73651	Plate	1.00	84	T-L	65.4	2.000	0.998	CT	0.994	0.40	26.00	26.6	0.8	1973	86213
		1.00			65.4	2.000	0.998	CT	0.994	0.40	26.00			1973	86213

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73651 Cont'd	Plate Cont'd	0.50	84 Cont'd	T-L Cont'd	67.2	1.000	0.500	CT	0.511	0.40	26.80	Cont'd	Cont'd	1973	86213
		0.50	67.2		1.000	0.501	CT	0.505	0.42	27.50	1973			86213	
T73651	Plate	4.00	84	S-L	59.7	3.000	1.498	CT	1.503	0.39	23.70	23.1	0.9	1973	86213
		2.00			61.5	1.490	0.748	CT	0.695	0.33	22.40			1973	86213
T73651	Plate	1.00	250	L-T	64.4	1.990	1.002	CT	1.034	0.85	37.50	37.3	0.3	1974	88174
		1.00			64.4	2.000	1.004	CT	1.036	0.83	37.10			1974	88174
T73652	Forging	3.50	R.T.	L-T	61.1	3.000	1.500	CT	1.630	0.74	33.30	31.1	2.5	1975	AL015
		3.50			61.1	3.000	1.500	CT	1.540	0.79	34.40			1975	AL015
		5.50			63.0	3.000	1.500	CT	1.510	0.63	31.50			1975	AL015
		5.50			63.0	3.000	1.500	CT	1.500	0.59	30.60			1975	AL015
		4.50			63.2	3.000	1.510	CT	1.510	0.60	30.90			264	AL015
		5.50			68.8	3.000	1.500	CT	1.520	0.56	32.50			1975	AL015
		5.50			68.8	3.000	1.500	CT	1.530	0.61	34.00			1975	AL015
		3.50			70.0	3.000	1.500	CT	1.560	0.47	30.20			1975	AL015
		3.50			70.0	3.000	1.500	CT	1.530	0.46	30.10			1975	AL015
		...			72.0	3.000	1.500	CT	1.670	0.38	28.00			1975	AL015
T73652	Forging	...	R.T.	T-L	72.0	3.000	1.500	CT	1.640	0.33	26.20	20.7	1.4	1975	AL015
		4.50			59.3	3.000	1.510	CT	1.540	0.31	20.90			1975	AL015
		4.50			59.3	3.000	1.510	CT	1.560	0.32	21.20			1975	AL015
		7.50			60.7	3.000	1.500	CT	1.560	0.23	18.40			1975	AL015
		3.50			60.8	3.000	1.500	CT	1.530	0.32	21.90			1975	AL015
		4.50			60.8	3.000	1.500	CT	1.580	0.25	19.10			1975	AL015

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} • (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73652 Cont'd	Forging Cont'd	3.50	R.T. Cont'd	T.L. Cont'd	60.8	3.000	1.500	CT	1.560	0.32	21.70	Cont'd	Cont'd	1975	AL015
		4.50			60.8	3.000	1.500	CT	1.560	0.27	20.00			1975	AL015
		5.50			62.6	3.000	1.500	CT	1.520	0.29	21.30			1975	AL015
		5.50			62.6	3.000	1.500	CT	1.540	0.29	21.30			1975	AL015
		3.50			66.0	3.000	1.500	CT	1.580	0.30	22.70			1975	AL015
		3.50			66.0	3.000	1.500	CT	1.540	0.29	22.50			1975	AL015
		5.50			66.2	3.000	1.500	CT	1.560	0.21	19.00			1975	AL015
		5.50			66.2	3.000	1.500	CT	1.580	0.22	19.70			1975	AL015
		3.50			66.5	3.000	1.500	CT	1.530	0.29	19.30			1975	AL015
		3.50			66.5	3.000	1.500	CT	1.540	0.29	19.40			1975	AL015
		5.50			67.1	3.000	1.500	CT	1.500	0.27	18.90			1975	AL015
		5.50			67.1	3.000	1.500	CT	1.540	0.29	19.30			1975	AL015
T73652	Forging	4.50	R.T.	S.L.	67.3	3.000	1.500	CT	1.560	0.26	18.60	19.2	1.4	1975	AL015
		4.50			67.3	3.000	1.500	CT	1.560	0.25	18.10			1975	AL015
		7.50			67.8	3.000	1.500	CT	1.520	0.34	21.40			1975	AL015
		7.50			67.8	3.000	1.500	CT	1.500	0.24	18.00			1975	AL015
		7.50			68.1	3.000	1.500	CT	1.540	0.20	16.50			1975	AL015
		4.50			61.1	3.000	1.500	CT	1.540	0.29	20.70			1975	AL015
		4.50			61.1	3.000	1.500	CT	1.530	0.19	16.80			1975	AL015
		5.50			62.1	3.000	1.500	CT	1.530	0.26	20.20			1975	AL015
		5.50			62.1	3.000	1.500	CT	1.560	0.23	19.00			1975	AL015
		3.50			64.4	3.000	1.500	CT	1.610	0.27	21.10			1975	AL015

TABLE 8.7.2.1 (CONTINUED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73652 Cont'd	Forging Cont'd	3.50	R.T. Cont'd	S-L Cont'd	64.4	3.000	1.500	CT	1.570	0.28	21.40	Cont'd	Cont'd	1975	AL015
		---			67.6	1.500	0.750	CT	0.770	0.19	18.60			1975	AL015
		---			67.6	1.500	0.750	CT	0.760	0.19	18.70			1975	AL015
T73652	Forging	7.50	82	L-T	60.9	3.000	1.499	CT	1.458	0.77	33.70	34.1	3.6	1973	86213
		4.50			62.1	3.000	1.497	CT	1.531	0.82	37.70			1973	86213
		4.50			62.1	3.000	1.498	CT	1.554	0.82	35.50			1973	86213
		2.50			67.3	3.000	1.499	CT	1.465	0.47	29.30			1973	86213
T73652	Forging	4.50	82	T-L	60.2	3.000	1.499	CT	1.556	0.33	21.90	25.1	2.8	1973	86213
		2.50			65.5	3.000	1.498	CT	1.604	0.43	27.20			1973	86213
		2.50			65.5	3.000	1.500	CT	1.530	0.40	26.20			1973	86213
		2.50			61.3	2.000	0.999	CT	0.986	0.26	19.90			1973	86213
T74	Forging	2.50	82	S-L	61.3	2.000	0.999	CT	0.997	0.23	18.50	19.2	1.0	1973	86213
		3.00			---	3.001	1.395	CT	1.631	---	40.59			1990	SW001
		3.00			---	3.001	1.431	CT	1.651	---	45.57			1990	SW001
T74	Forging	3.00	0	L-T	---	3.000	1.413	CT	1.617	---	29.05	28.5	0.7	1990	SW001
		3.00			---	3.002	1.386	CT	1.596	---	27.71			1990	SW001
		3.00			---	3.001	1.413	CT	1.618	---	28.63			1990	SW001
		1.50			71.0	3.000	1.480	CT	1.528	0.94	43.50			1987	DA005
T74511	Extrusion	1.50	-65	L-T	71.0	3.000	1.480	CT	1.556	0.96	43.90	38.8	5.8	1987	DA005
		0.75			74.3	1.502	0.733	CT	0.801	0.55	35.20			1987	DA004
		0.75			74.3	1.501	0.729	CT	0.803	0.48	32.60			1987	DA004
		0.75			74.3	1.501	0.729	CT	0.803	0.48	32.60			1987	DA004

TABLE 8.7.2.1 (CONTINUED)

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ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TVS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T74511	Extrusion	1.00	0	T-L	---	2.001	0.999	CT	1.046	---	25.19	25.1	0.5	1990	SW001
		1.00				2.001	0.999	CT	1.051	---	25.16			1990	SW001
		1.00				2.001	0.999	CT	1.046	---	24.41			1990	SW001
		1.00				2.001	1.000	CT	1.051	---	25.66			1990	SW001
T74511	Extrusion	1.50	R.T.	L-T	---	3.000	1.480	CT	1.540	1.11	44.40	40.4	5.0	1987	DA005
		1.50				3.000	1.480	CT	1.546	1.14	45.00			1987	DA005
		0.75				1.505	0.731	CT	0.798	0.70	36.80			1987	DA004
		0.75				1.503	0.729	CT	0.792	0.64	35.30			1987	DA004
T7452	Forging	4.00	-65	T-L	---	2.008	1.000	CT	1.055	0.21	21.11	20.7	0.6	1987	DA005
		4.00				2.007	1.012	CT	0.968	0.19	20.33			1987	DA005
T7452	Forging	4.00	R.T.	L-T	---	2.006	0.999	CT	1.026	0.46	30.27	31.1	1.2	1987	DA005
		4.00				2.008	1.000	CT	1.041	0.52	31.94			1987	DA005
T7452	Forging	4.00	R.T.	T-L	---	1.998	1.001	CT	1.028	0.35	26.90	23.5	3.0	1987	DA004
		4.00				2.006	1.003	CT	0.966	0.22	21.44			1987	DA005
		4.00				2.005	1.001	CT	1.008	0.23	22.10			1987	DA005
		0.75				1.482	0.743	CT	0.754	0.65	35.60			1987	DA004
T7651	Plate	0.75	-65	L-T	---	1.483	0.741	CT	0.750	0.56	34.70	34.3	1.1	1987	DA004
		0.75				1.483	0.741	CT	0.750	0.56	34.70			1987	DA004
		1.00				2.006	1.000	CT	1.065	0.50	33.70			1987	DA005
		1.00				2.004	1.002	CT	1.093	0.49	33.19			1987	DA005

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TABLE 8.7.2.1 (CONCLUDED)

ALUMINUM 7050 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7651	Plate	0.75	R.T.	L-T	69.6	1.483	0.741	CT	0.769	0.68	36.20	33.4	2.8	1987	DA004
		1.00			71.2	2.005	1.001	CT	1.101	0.63	35.70			1987	DA005
		1.00			71.2	2.003	1.001	CT	1.066	0.64	35.96			1987	DA005
		1.00			78.3	2.500	1.004	CT	1.280	0.38	30.70			1973	86574
		1.00			78.3	2.500	1.004	CT	1.279	0.39	31.10			1973	86574
		1.00			78.3	2.500	1.003	CT	1.274	0.38	30.60			1973	86574
T76511	Plate	0.75	R.T.	L-T	80.6	1.505	0.730	CT	0.780	0.27	26.70	---	---	1987	DA004
T76511	Extrusion	1.50	-65	L-T	80.1	3.000	1.480	CT	1.550	0.47	34.90	30.3	7.1	1987	DA005
		1.50			80.1	3.000	1.480	CT	1.536	0.55	37.60			1987	DA005
		0.75			84.9	1.503	0.733	CT	0.789	0.18	23.00			1987	DA004
		0.75			84.9	1.502	0.734	CT	0.835	0.23	25.50			1987	DA004
T76511	Extrusion	1.50	R.T.	L-T	76.9	3.000	1.480	CT	1.568	0.61	38.00	34.8	5.5	1987	DA005
		1.50			76.9	3.000	1.480	CT	1.553	0.61	38.00			1987	DA005
		0.75			80.6	1.504	0.729	CT	0.787	0.31	28.50			1987	DA004
T76511	Extrusion	2.00	R.T.	S-T	71.4	1.500	0.749	CT	0.735	0.29	24.30	---	---	1973	86213
T7656	Forging	5.00	R.T.	T-L	62.1	1.500	0.750	NB	0.875	0.74	33.80	28.9	3.9	1972	85291
		5.00			62.1	1.500	0.751	NB	0.837	0.48	27.20			1972	85291
		5.00			62.1	1.500	0.750	NB	0.837	0.39	24.60			1972	85291
		5.00			62.1	1.500	0.751	NB	0.863	0.57	29.80			1972	85291

RESISTANCE CURVE

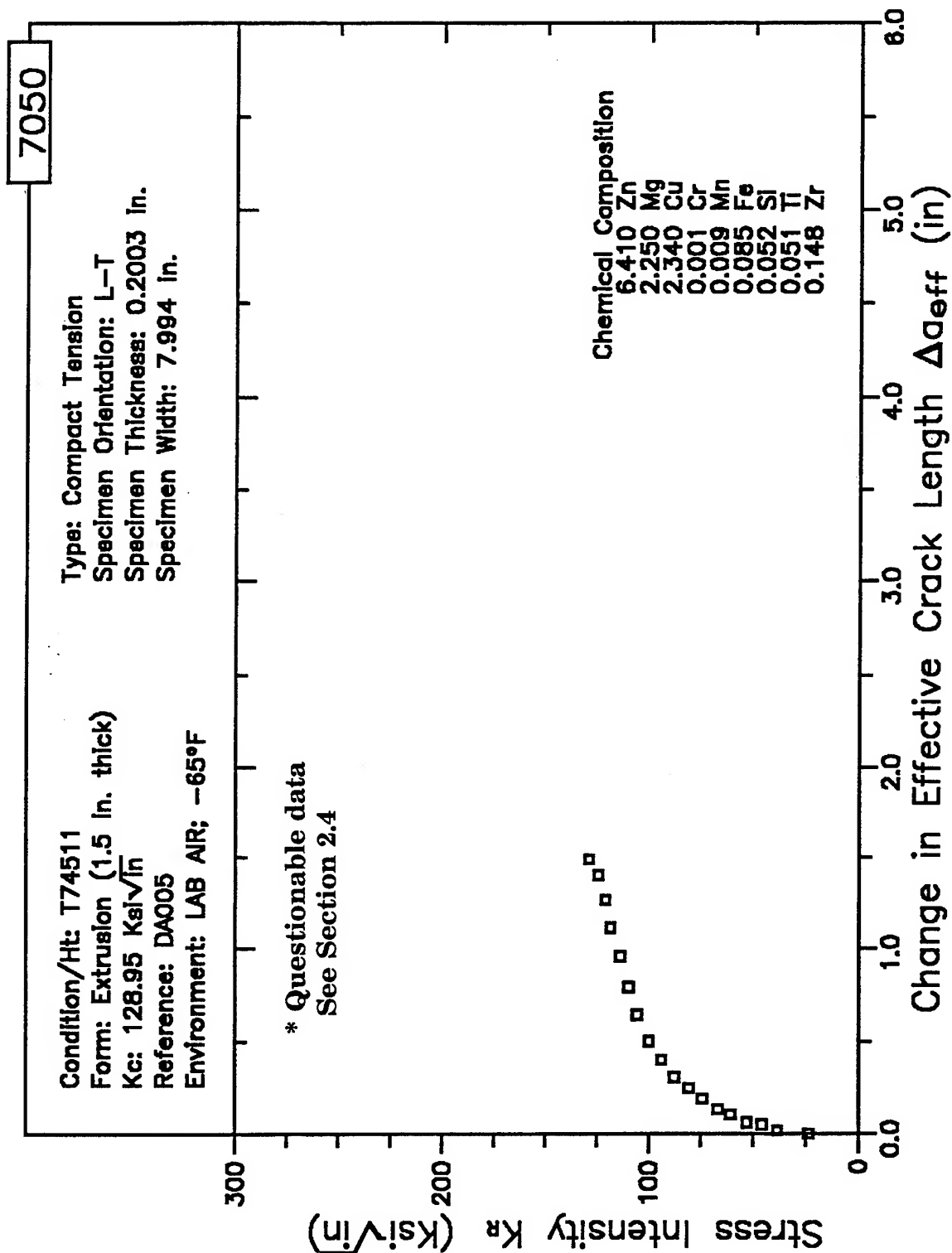


Figure 8.7.2.3.1

RESISTANCE CURVE

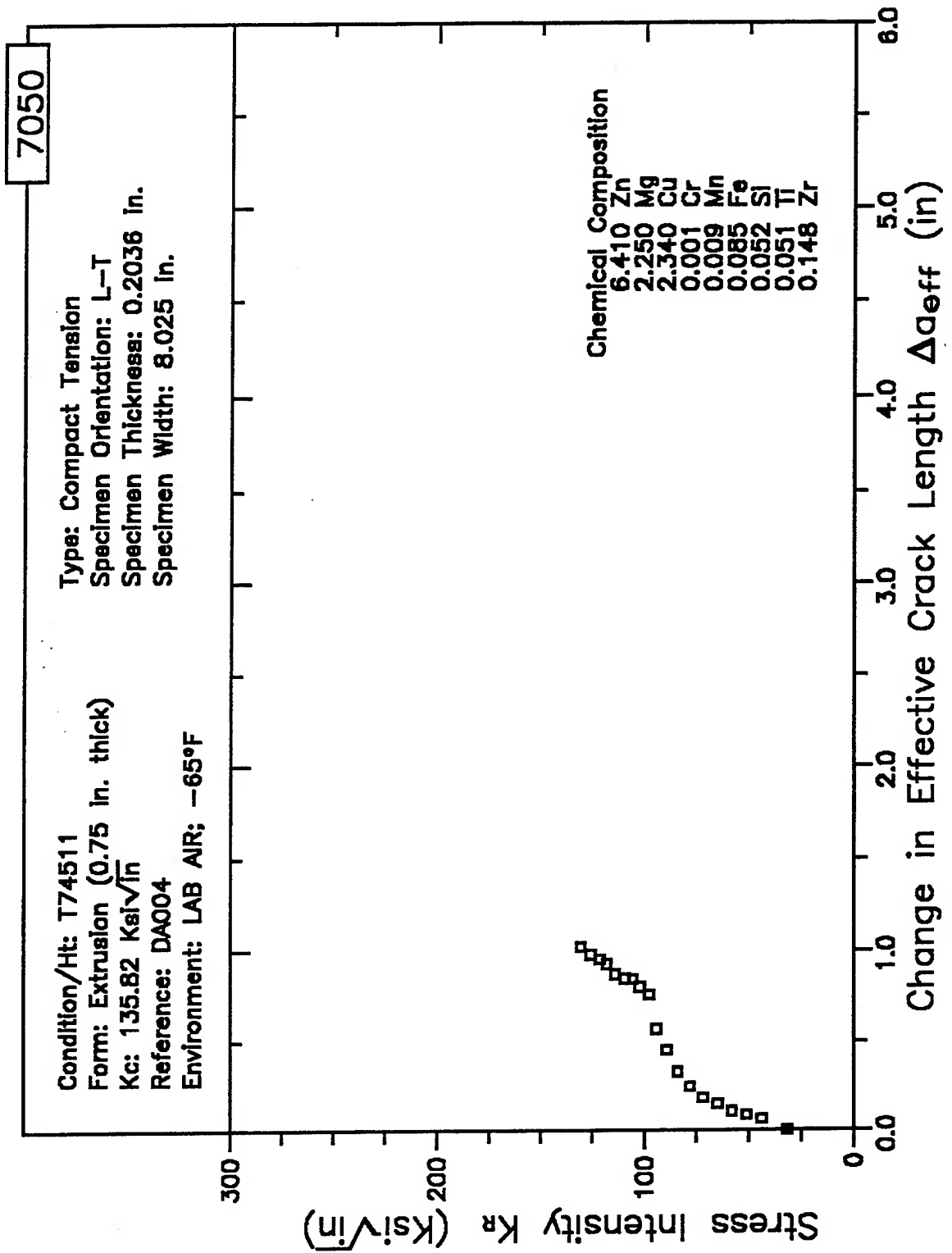


Figure 8.7.2.3.2

RESISTANCE CURVE

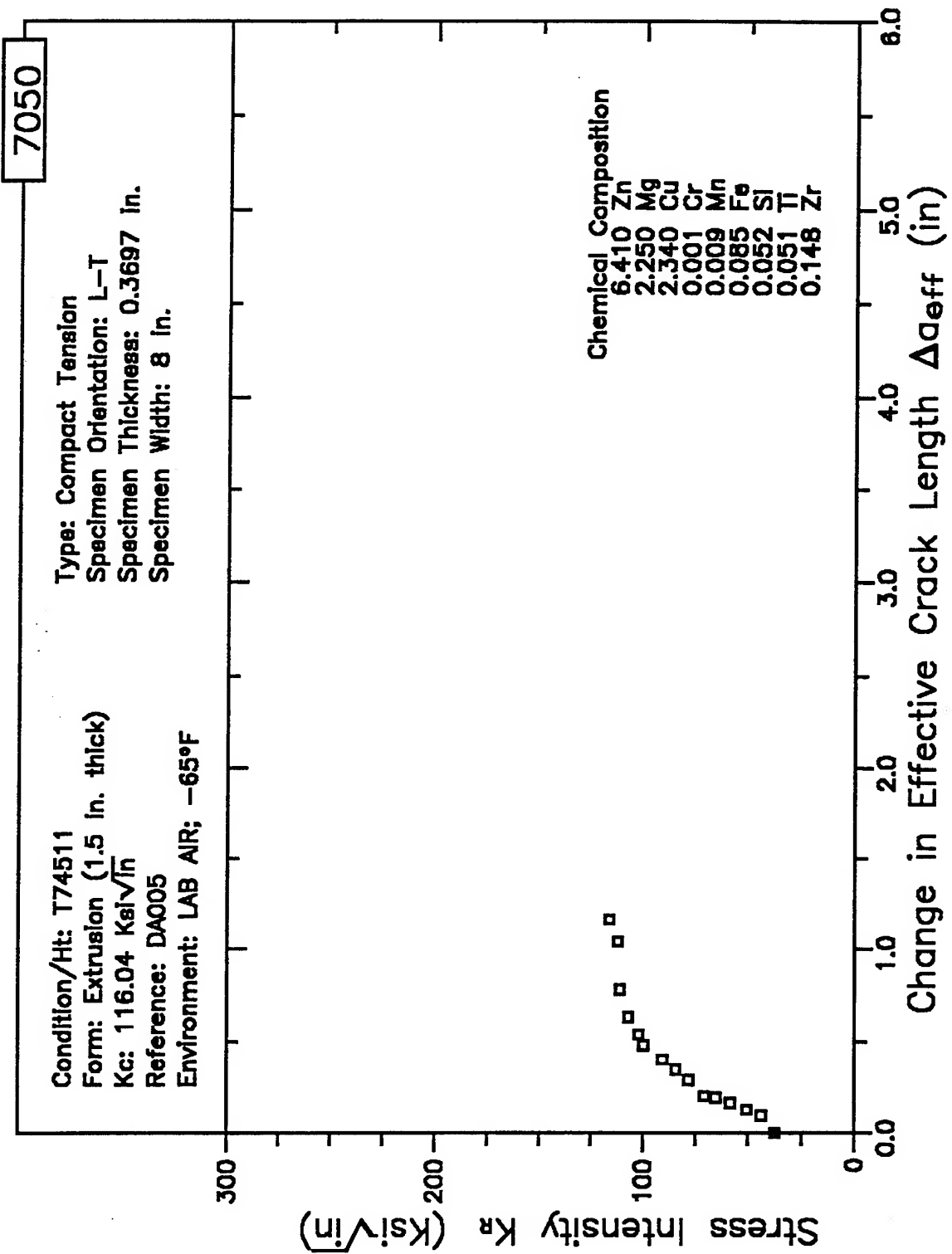


Figure 8.7.2.3.3

RESISTANCE CURVE

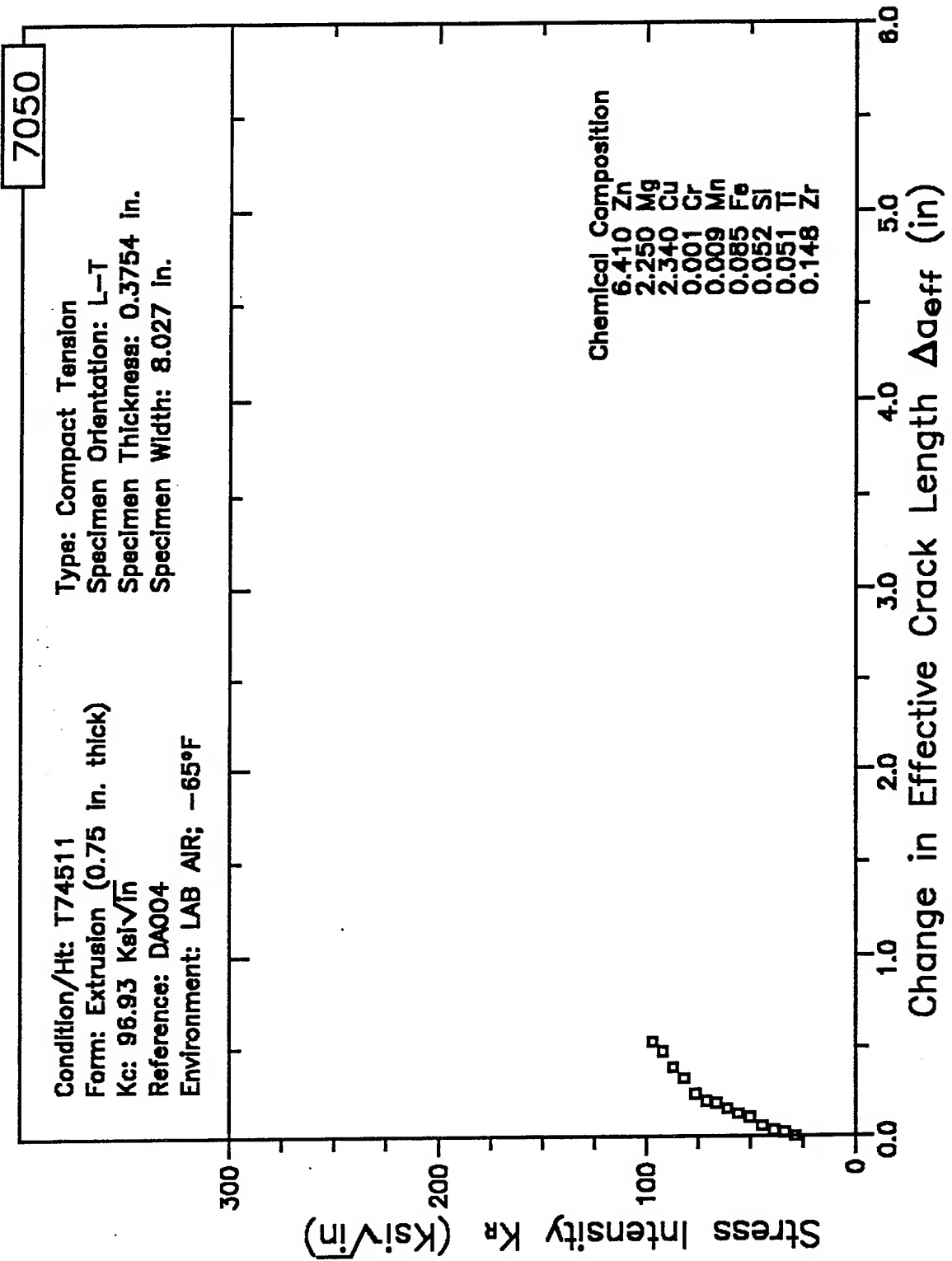


Figure 8.7.2.3.4

RESISTANCE CURVE

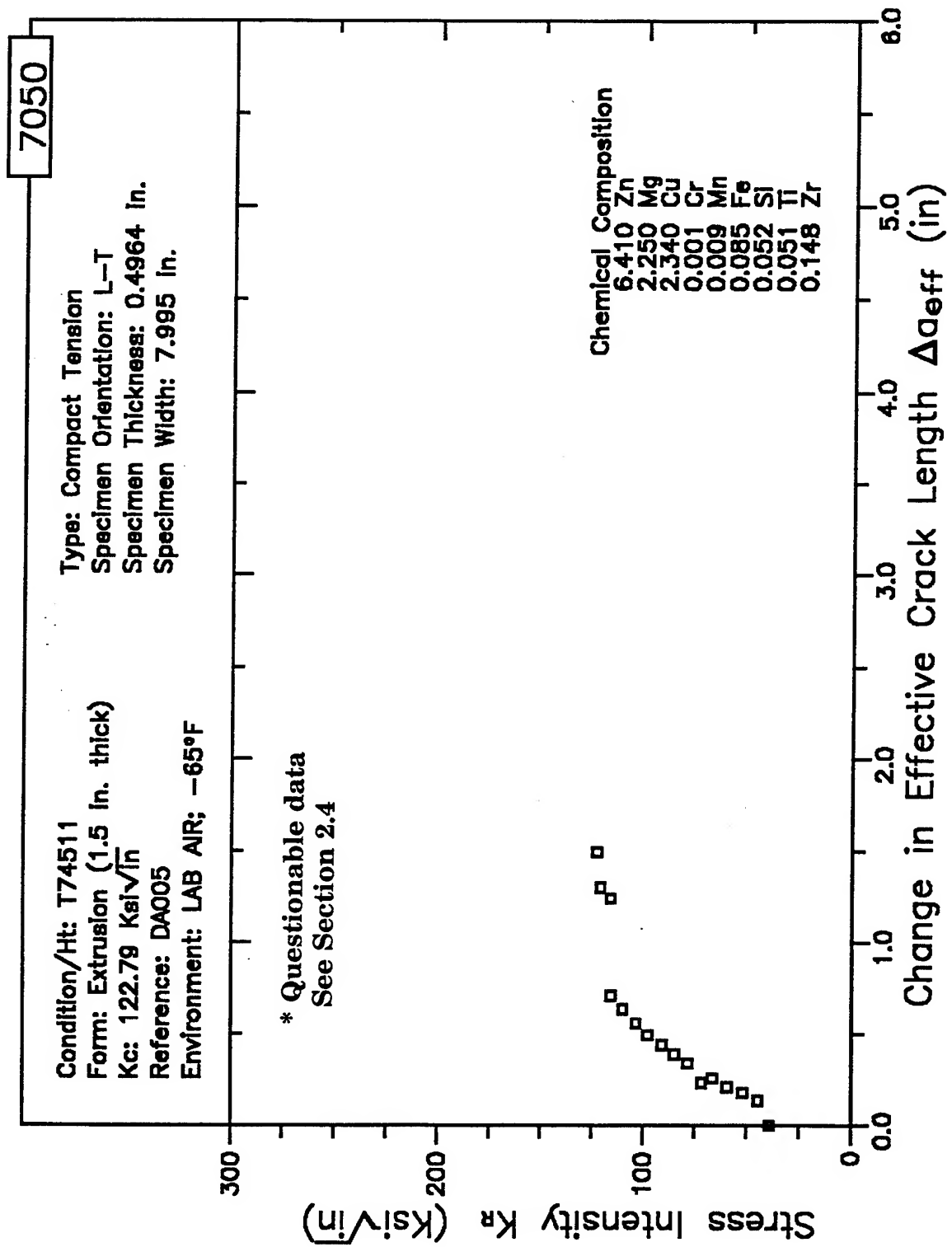


Figure 8.7.2.3.5

RESISTANCE CURVE

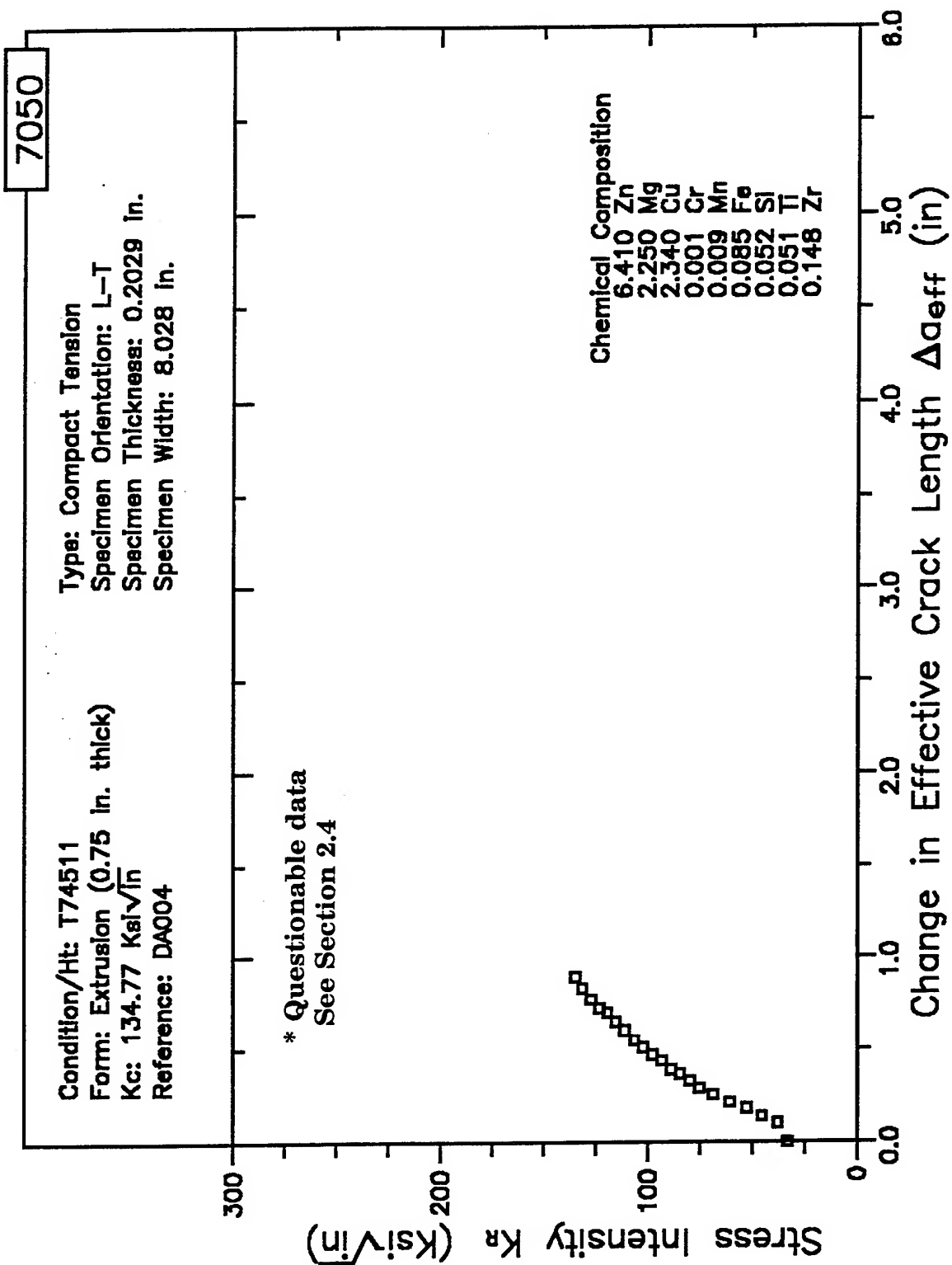


Figure 8.7.2.3.6

RESISTANCE CURVE

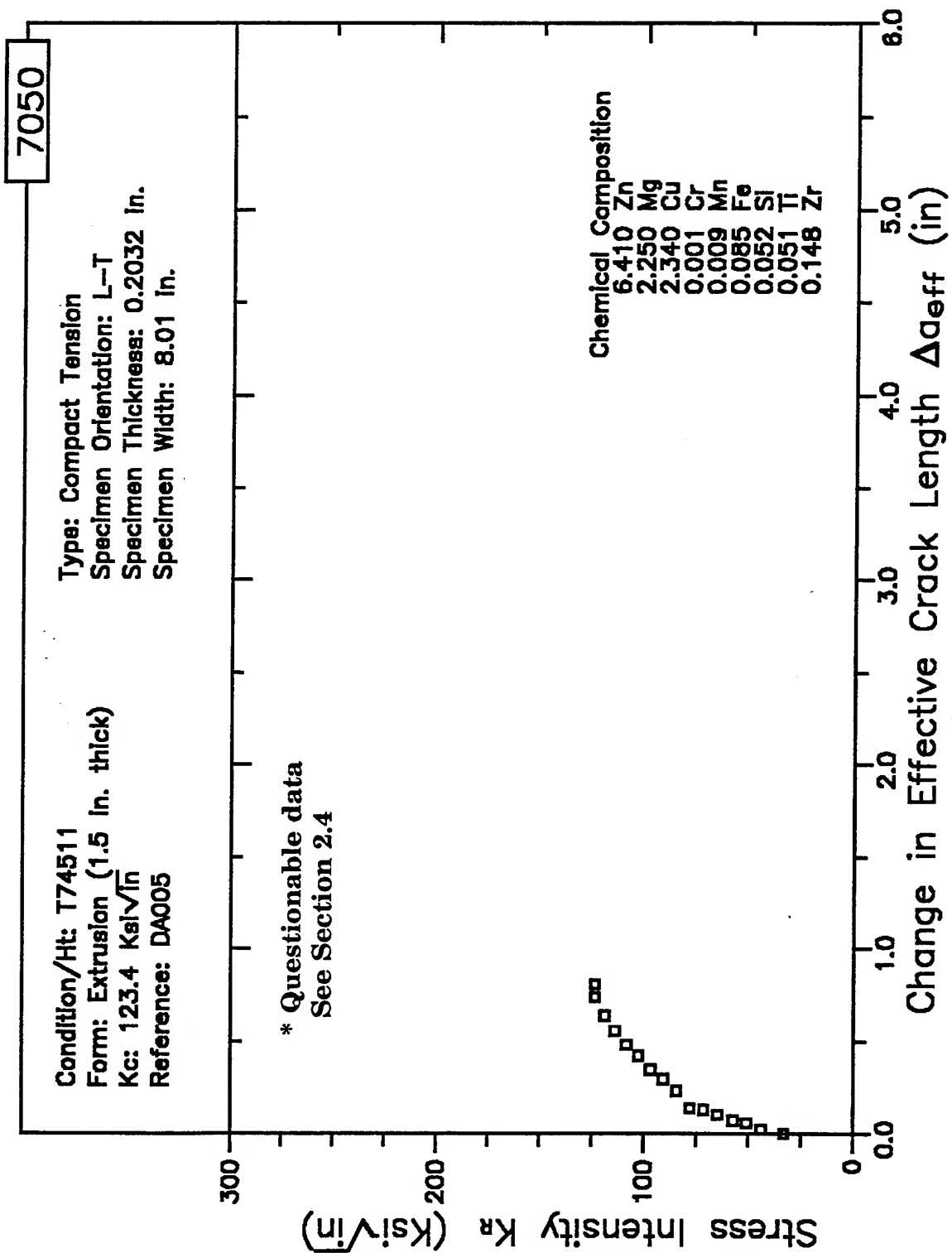


Figure 8.7.2.3.7

RESISTANCE CURVE

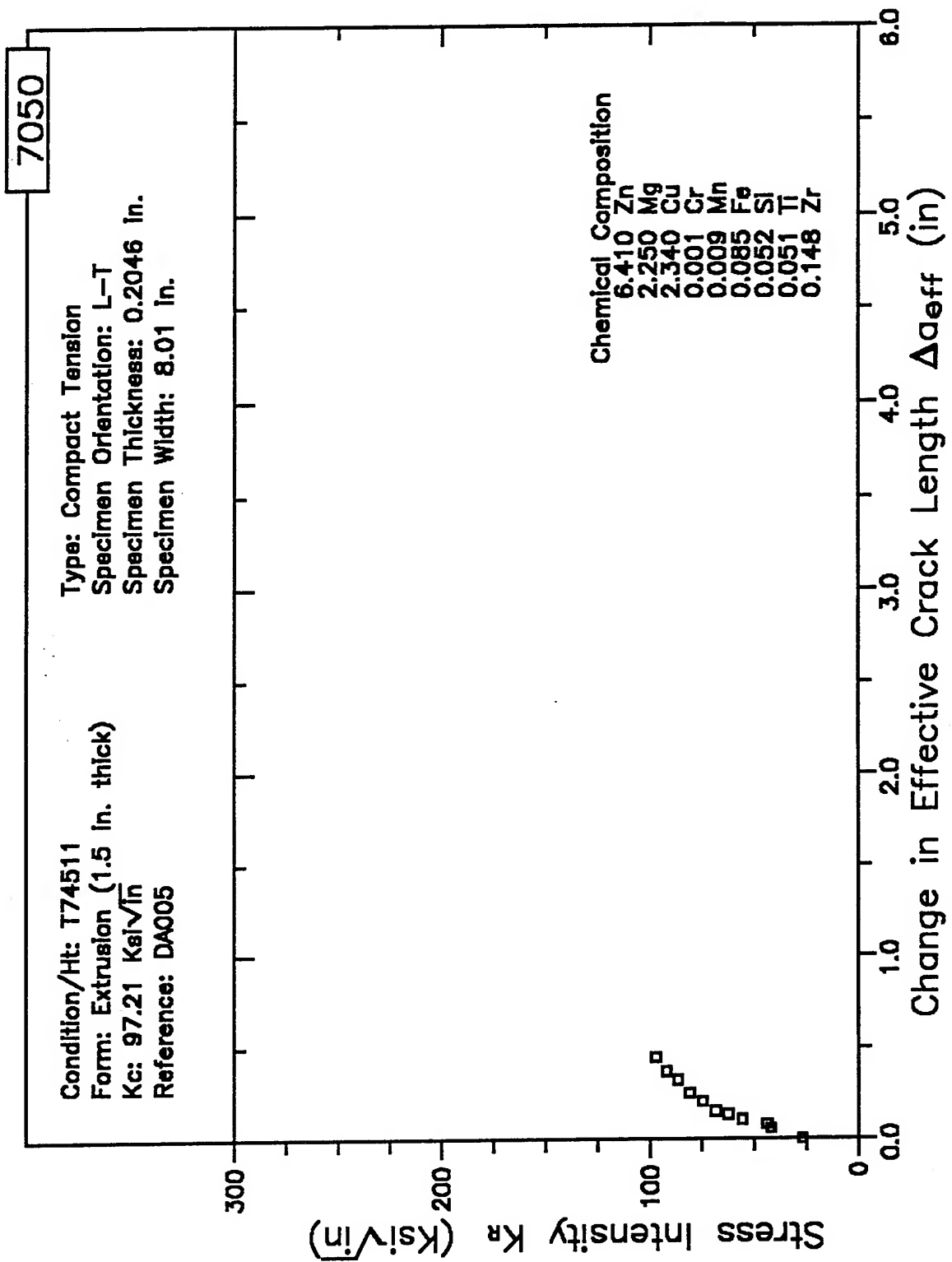


Figure 8.7.2.3.8

RESISTANCE CURVE

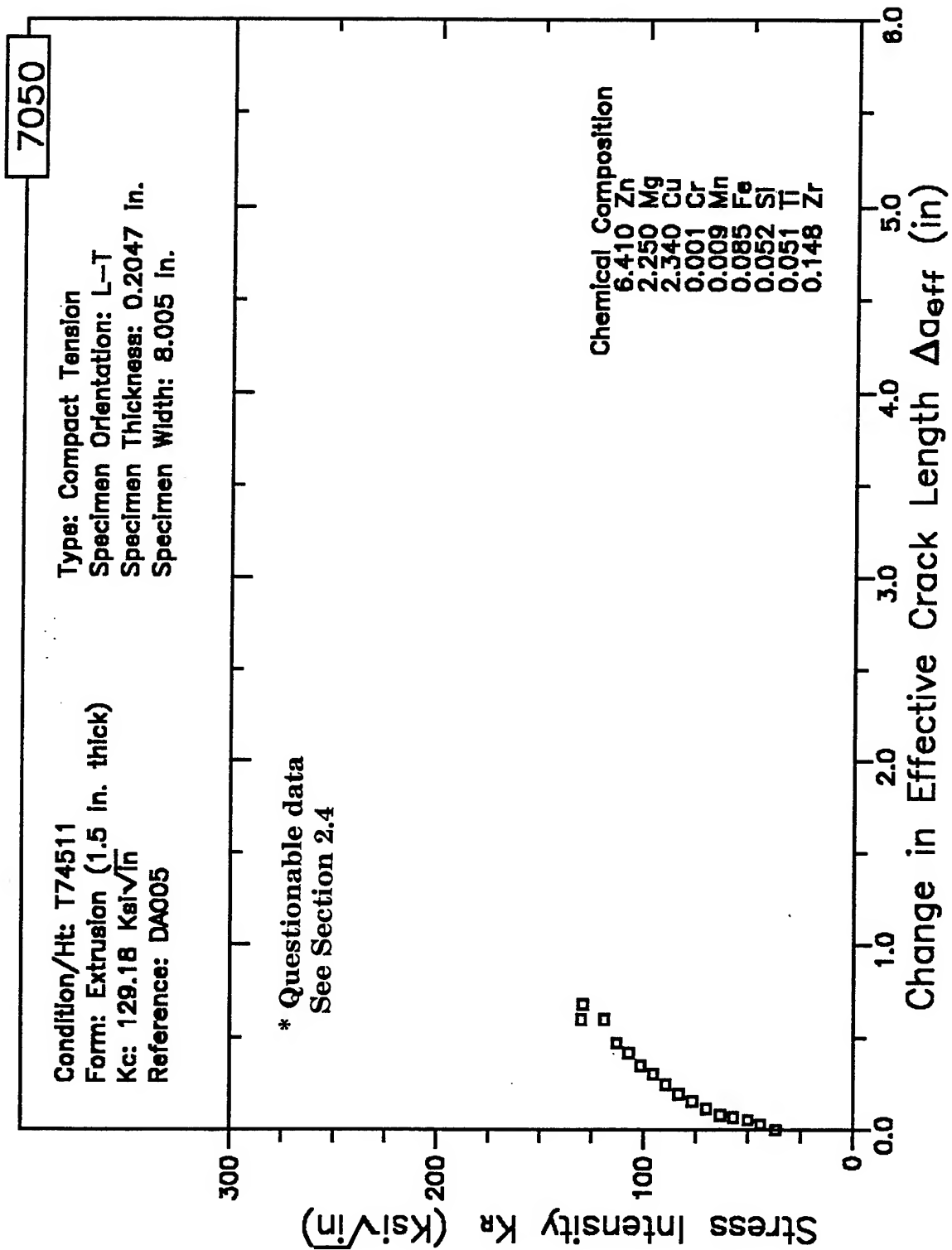


Figure 8.7.2.3.9

RESISTANCE CURVE

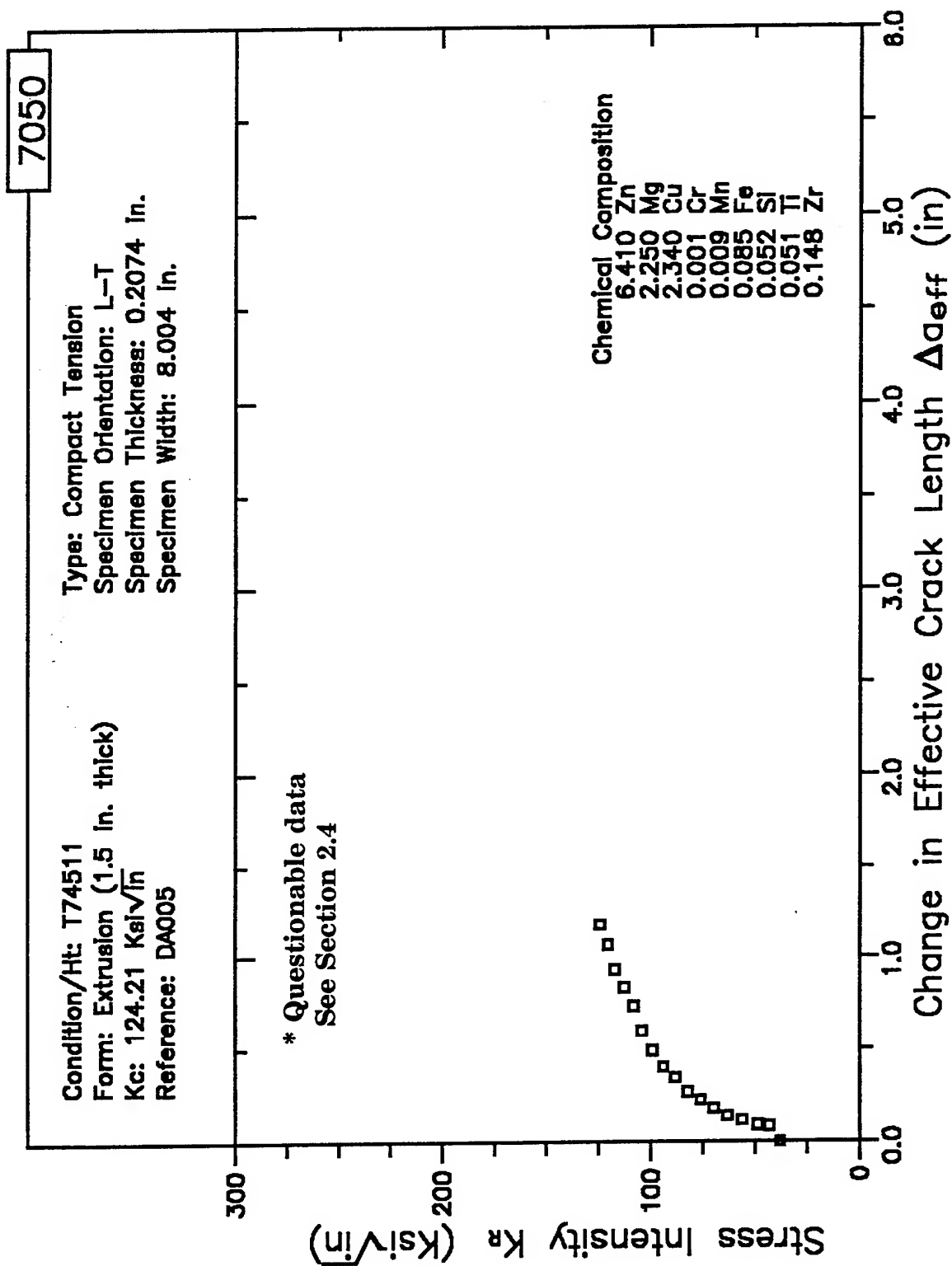


Figure 8.7.2.3.10

RESISTANCE CURVE

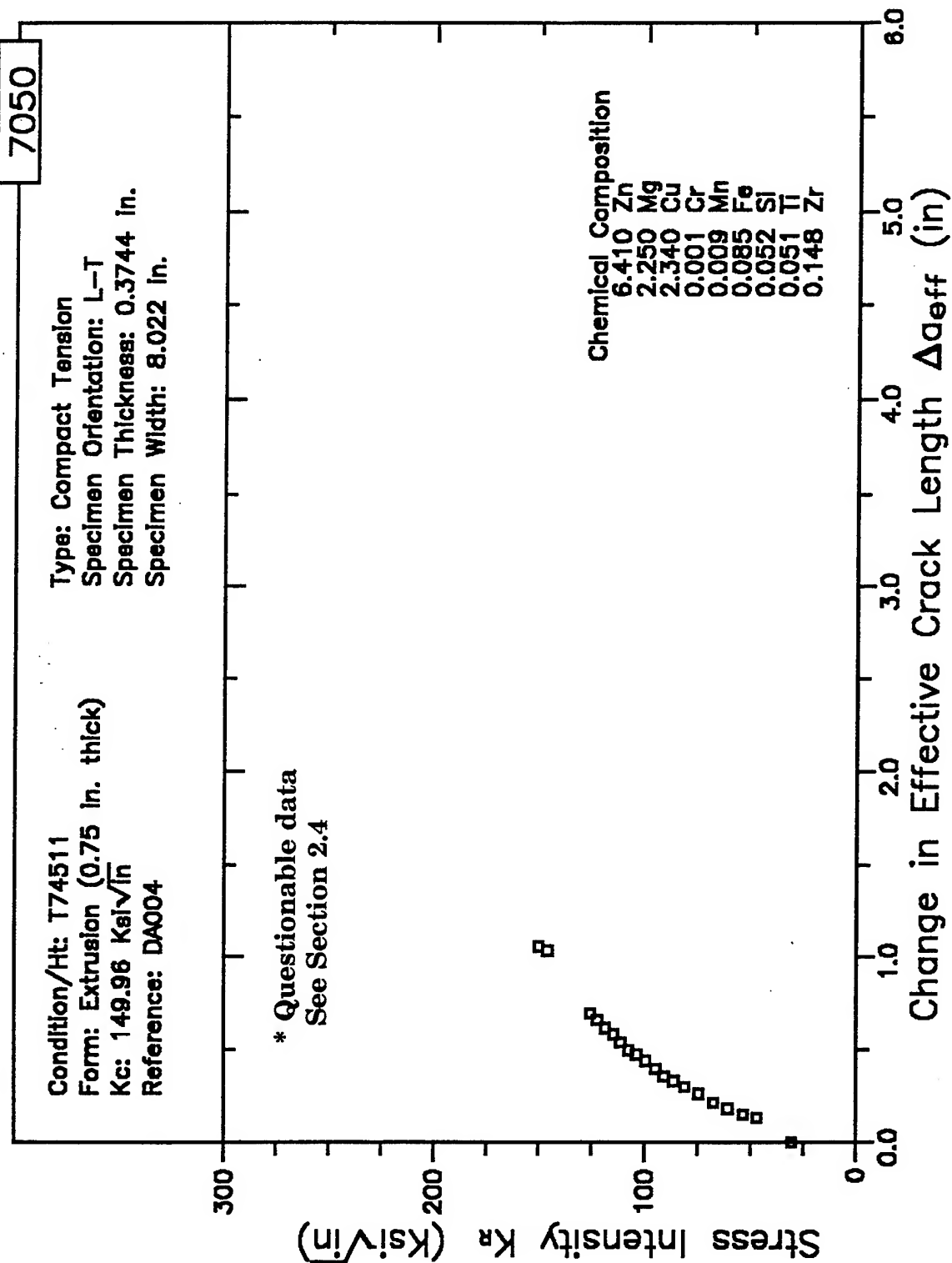


Figure 8.7.2.3.11

RESISTANCE CURVE

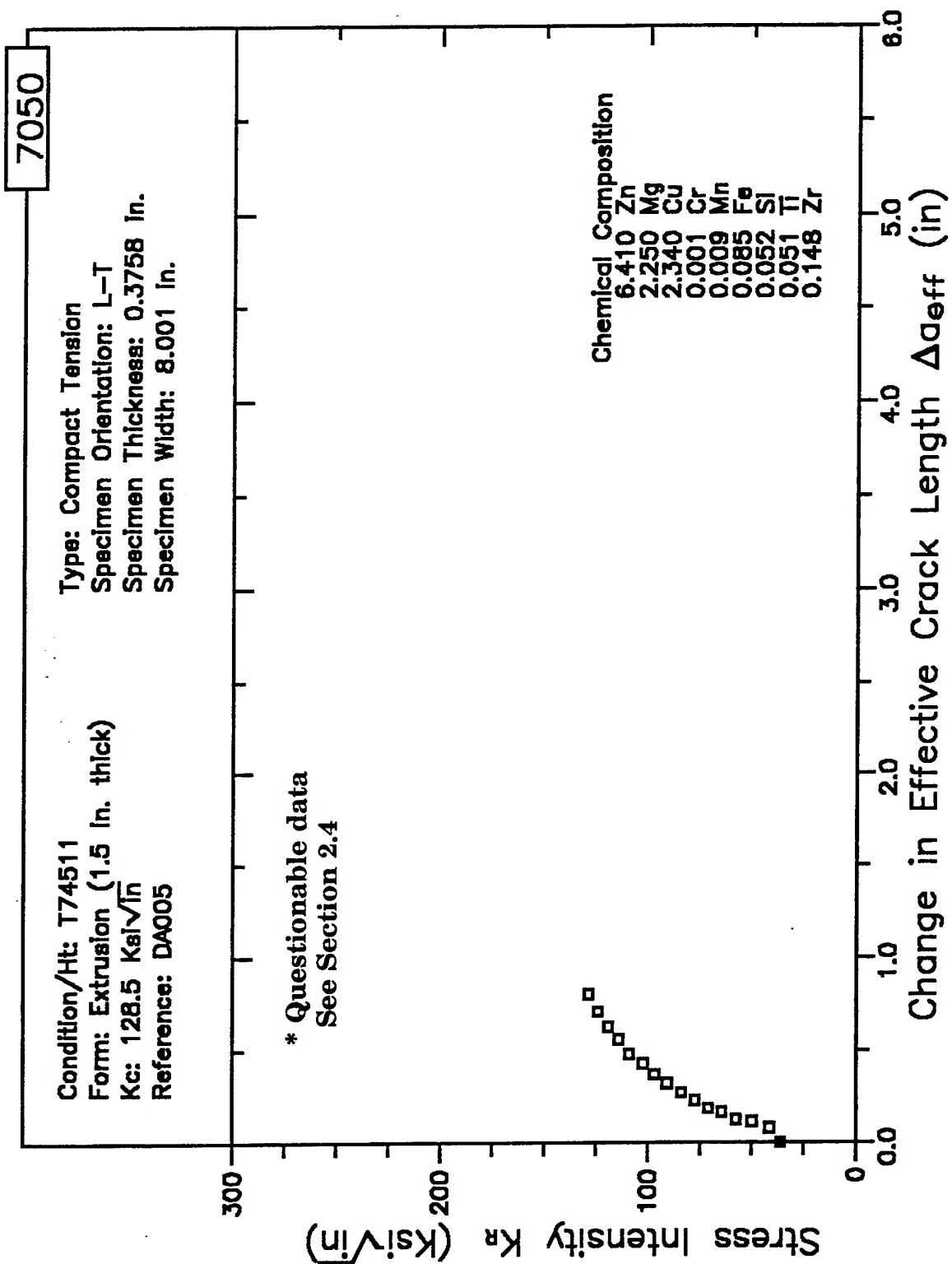


Figure 8.7.2.3.12

RESISTANCE CURVE

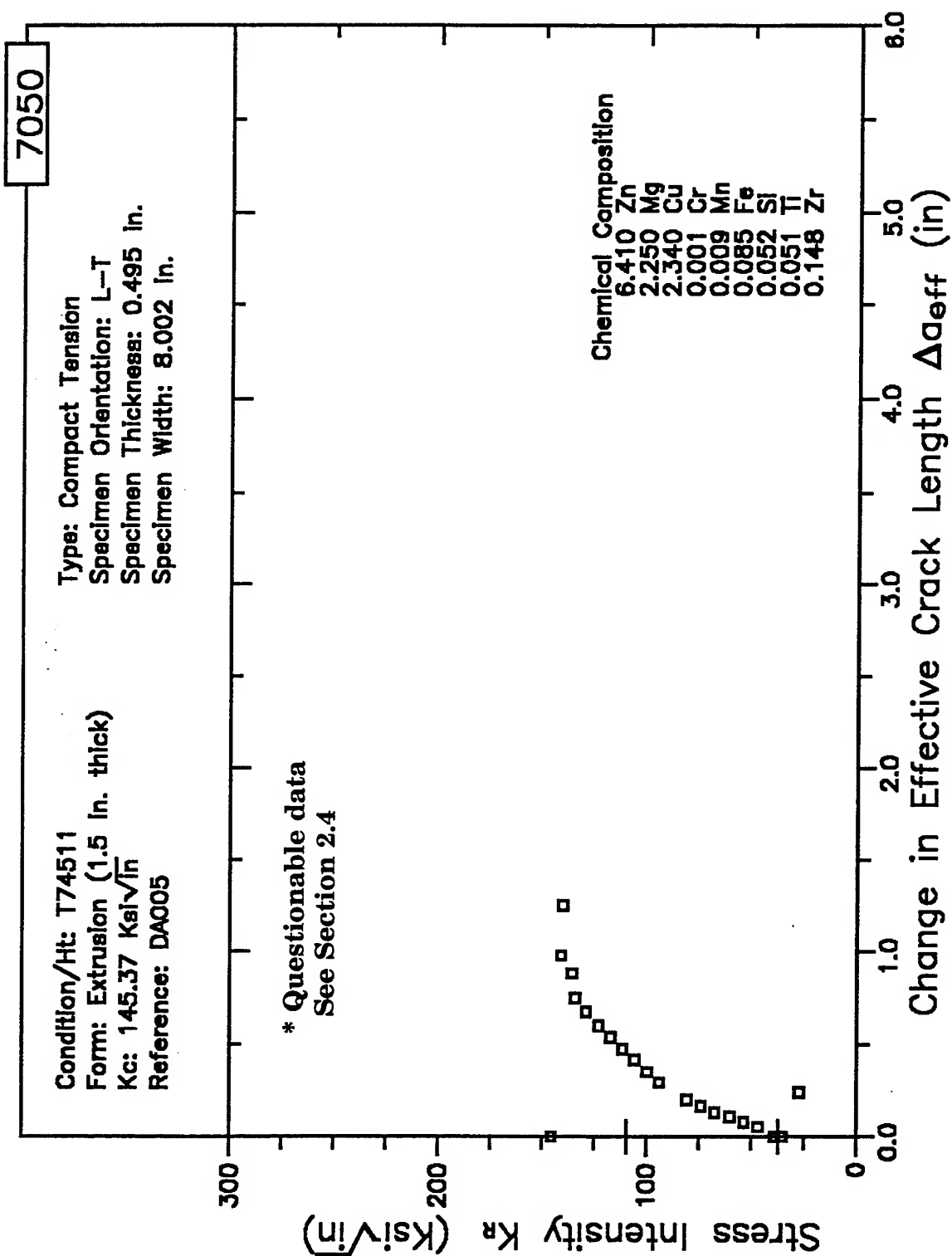


Figure 8.7.2.3.13

RESISTANCE CURVE

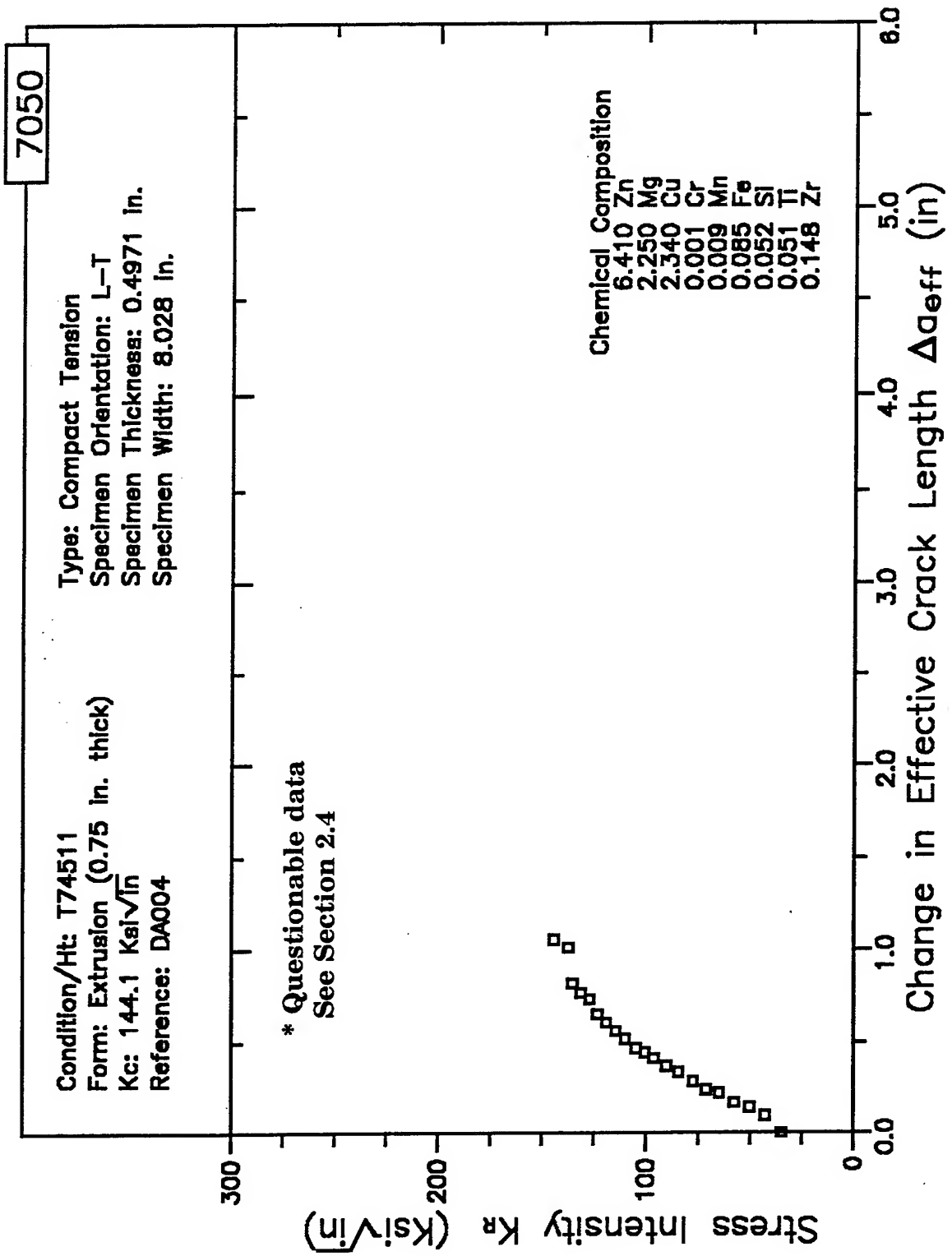


Figure 8.7.2.3.14

RESISTANCE CURVE

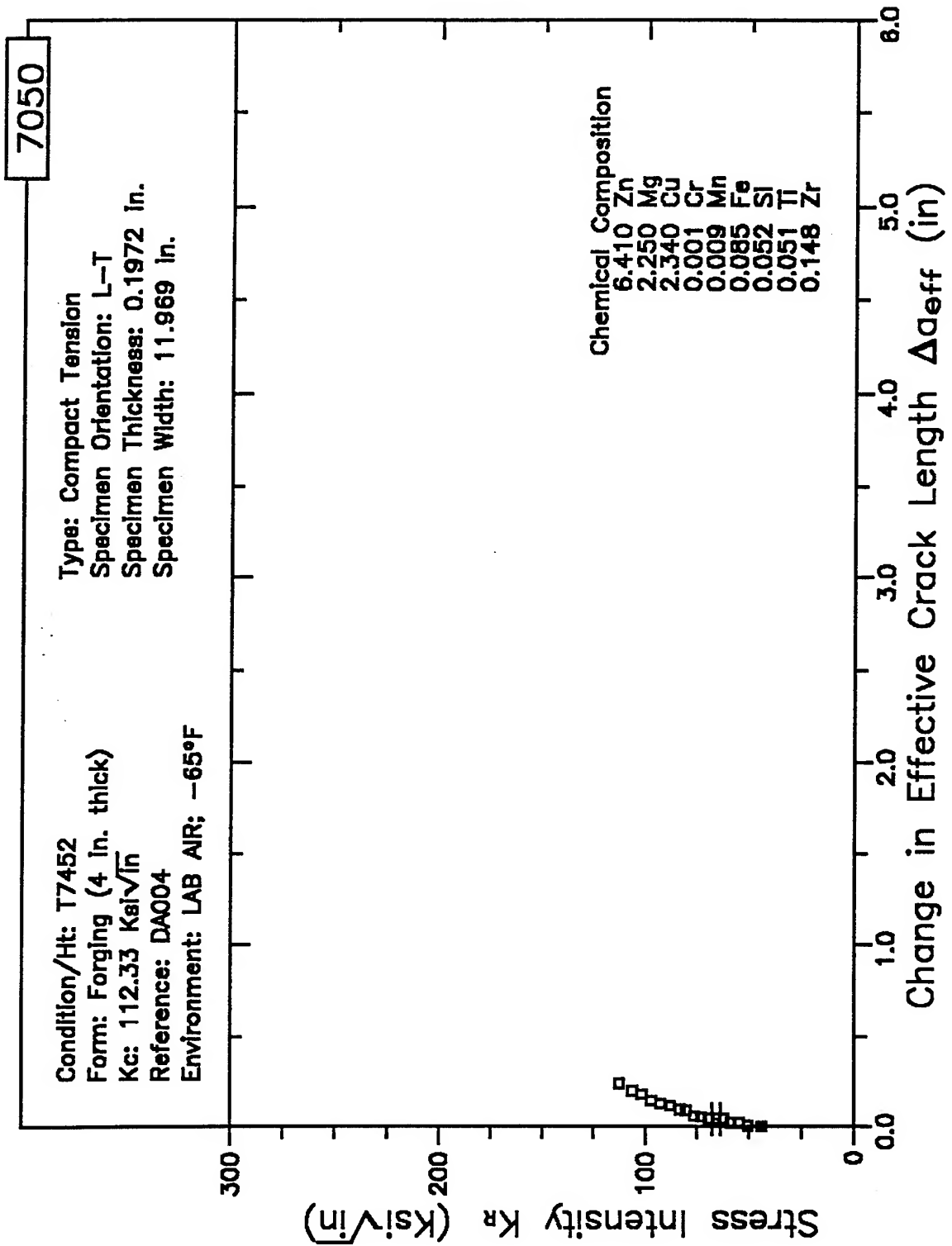


Figure 8.7.2.3.15

RESISTANCE CURVE

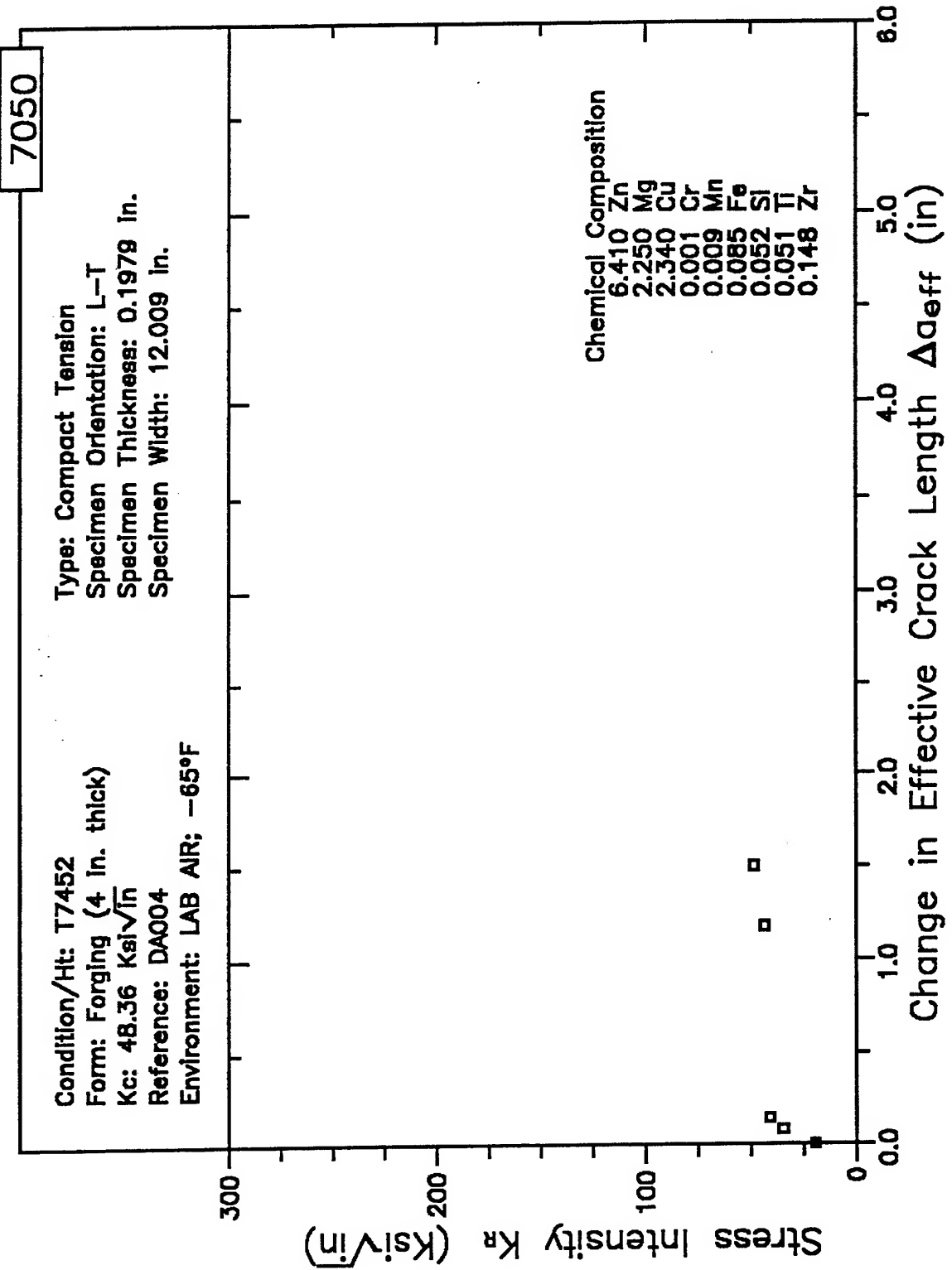


Figure 8.7.2.3.16

RESISTANCE CURVE

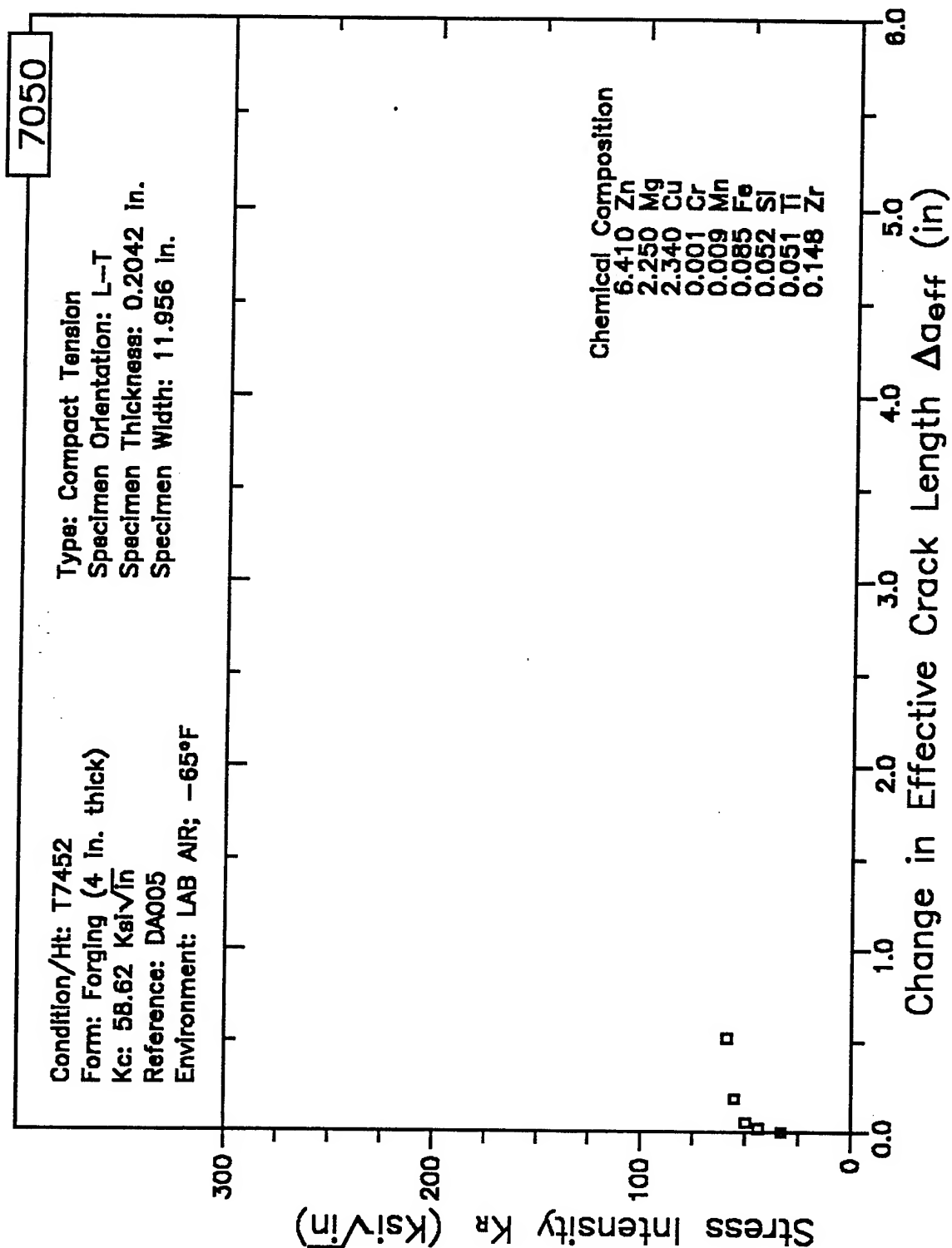


Figure 8.7.2.3.17

RESISTANCE CURVE

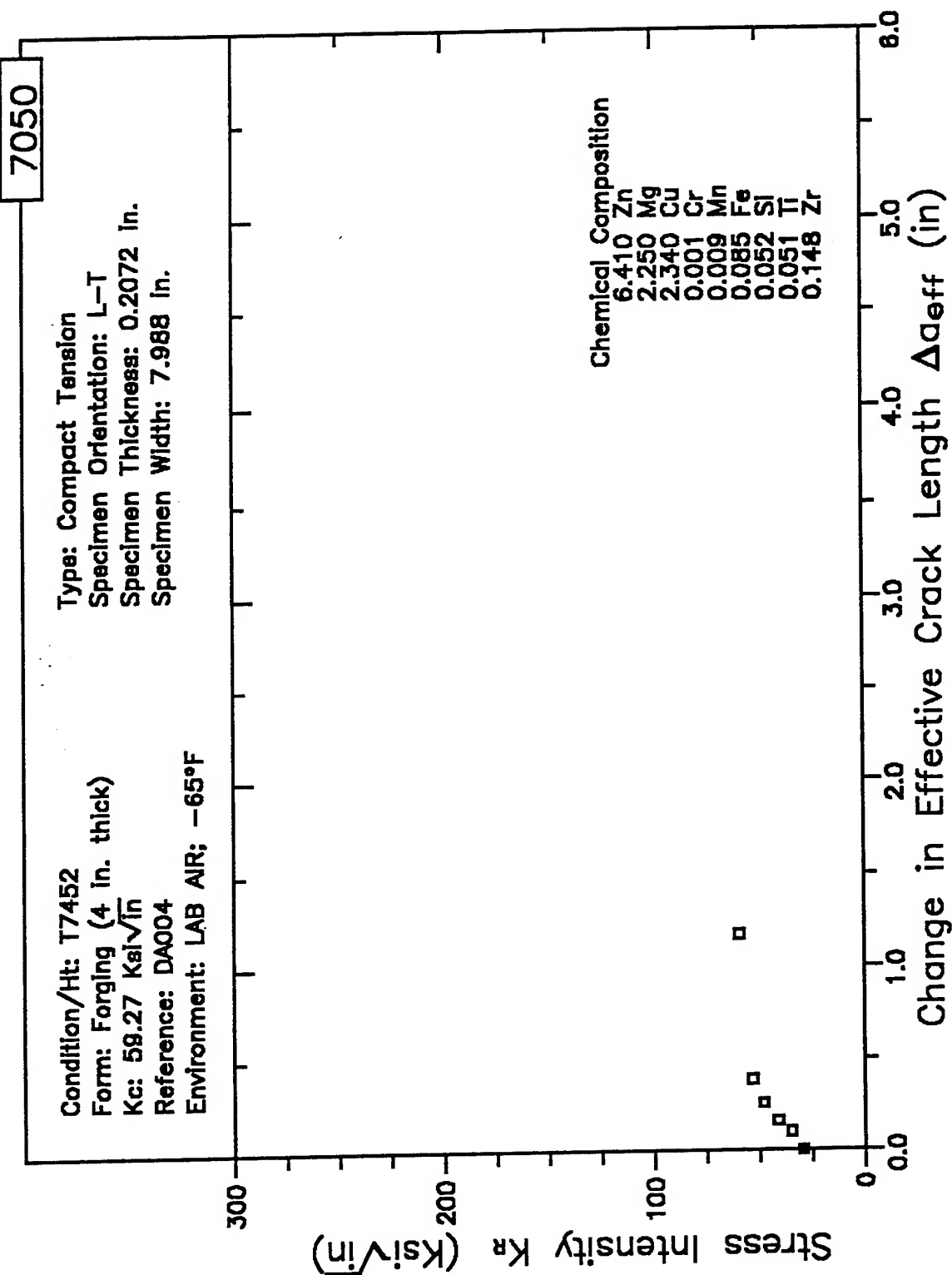


Figure 8.7.2.3.18

RESISTANCE CURVE

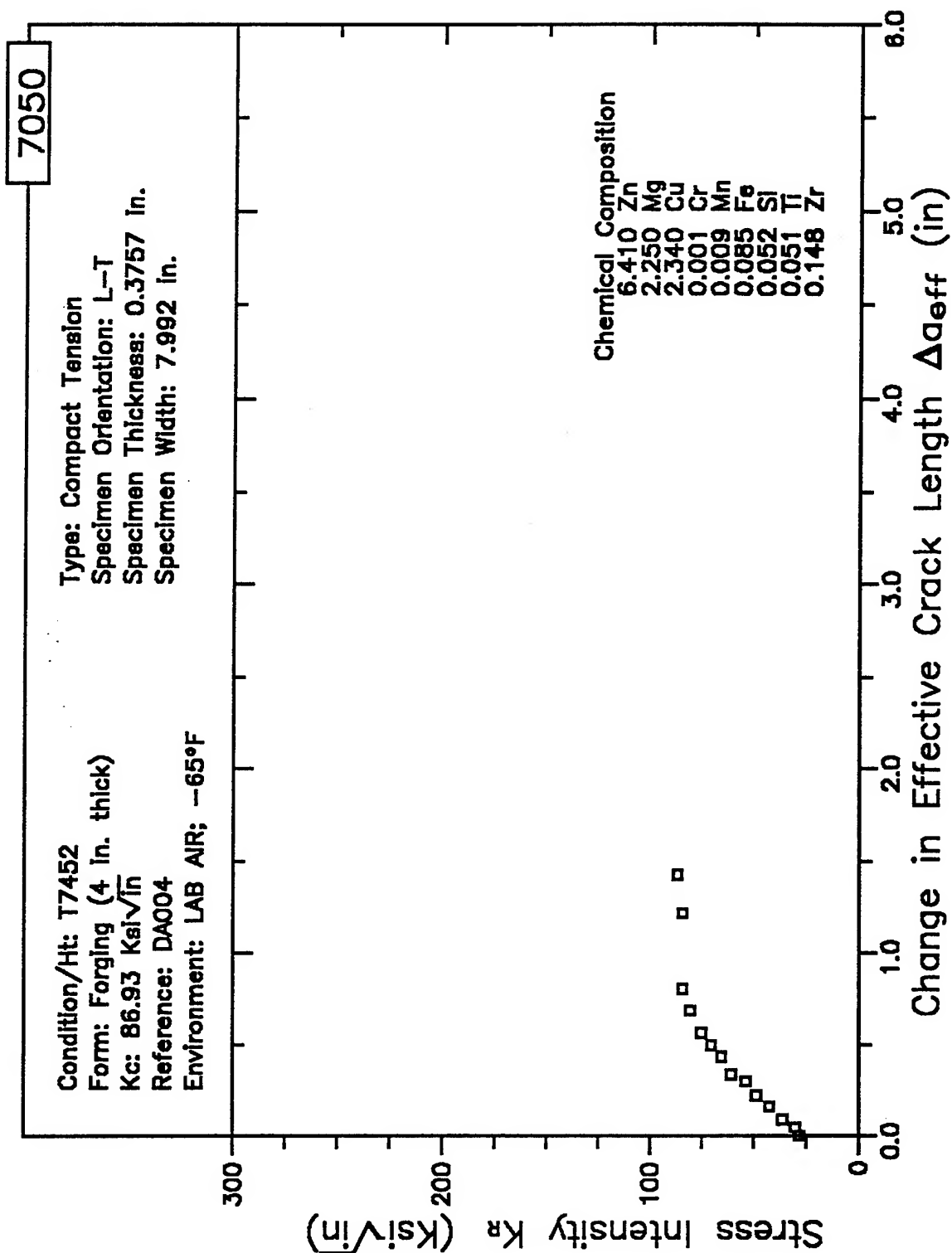


Figure 8.7.2.3.19

RESISTANCE CURVE

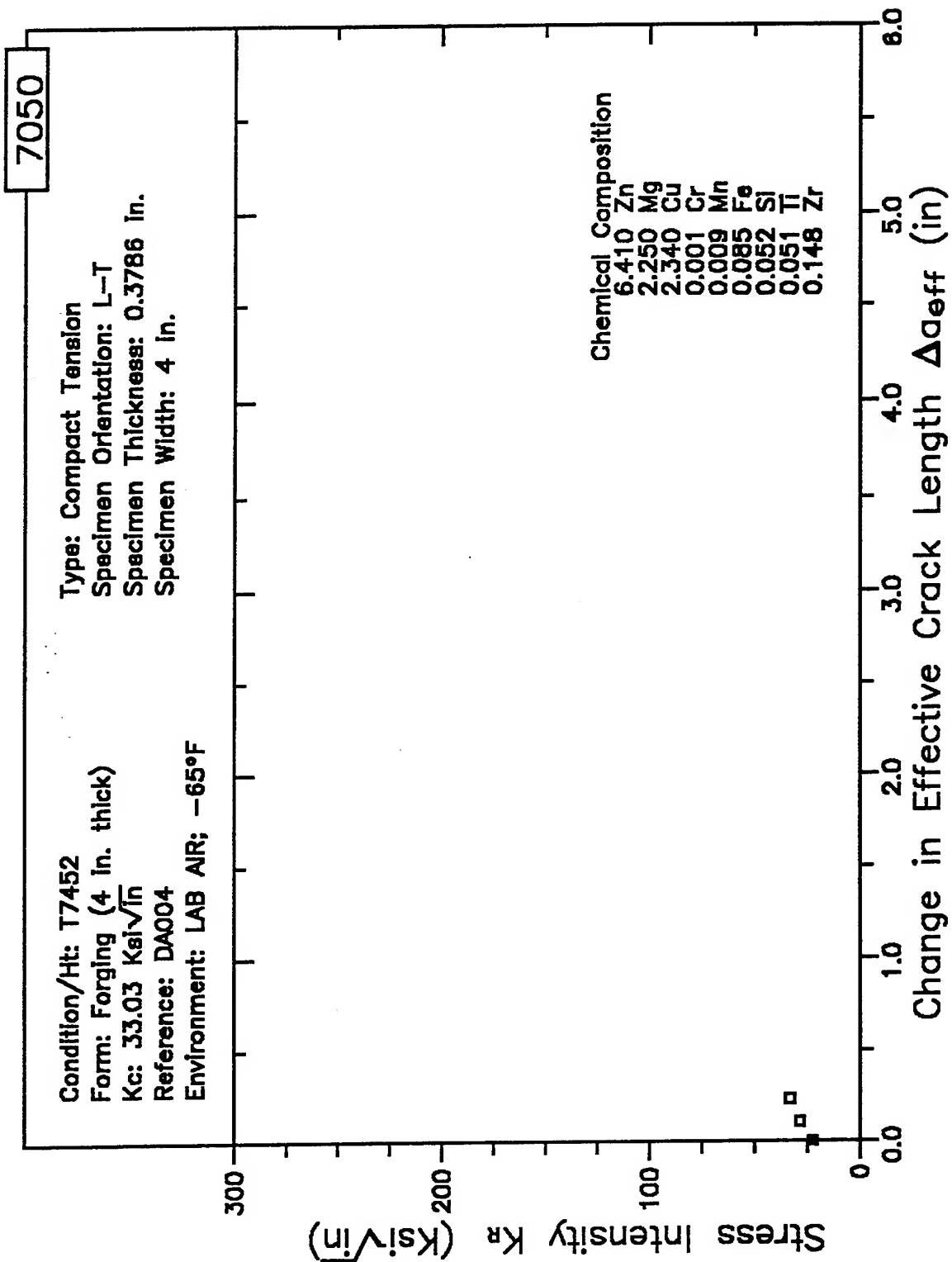


Figure 8.7.2.3.20

RESISTANCE CURVE

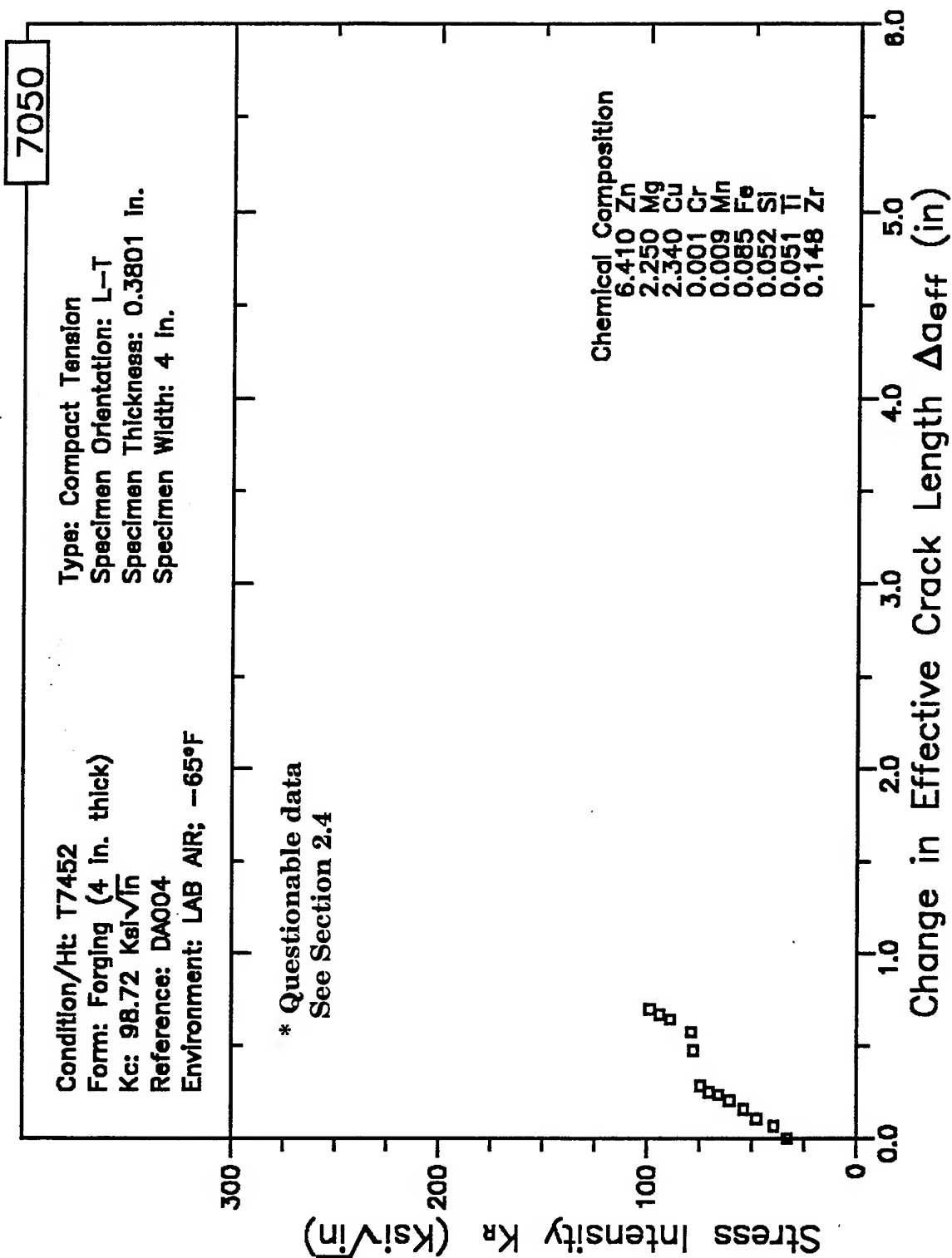


Figure 8.7.2.3.21

RESISTANCE CURVE

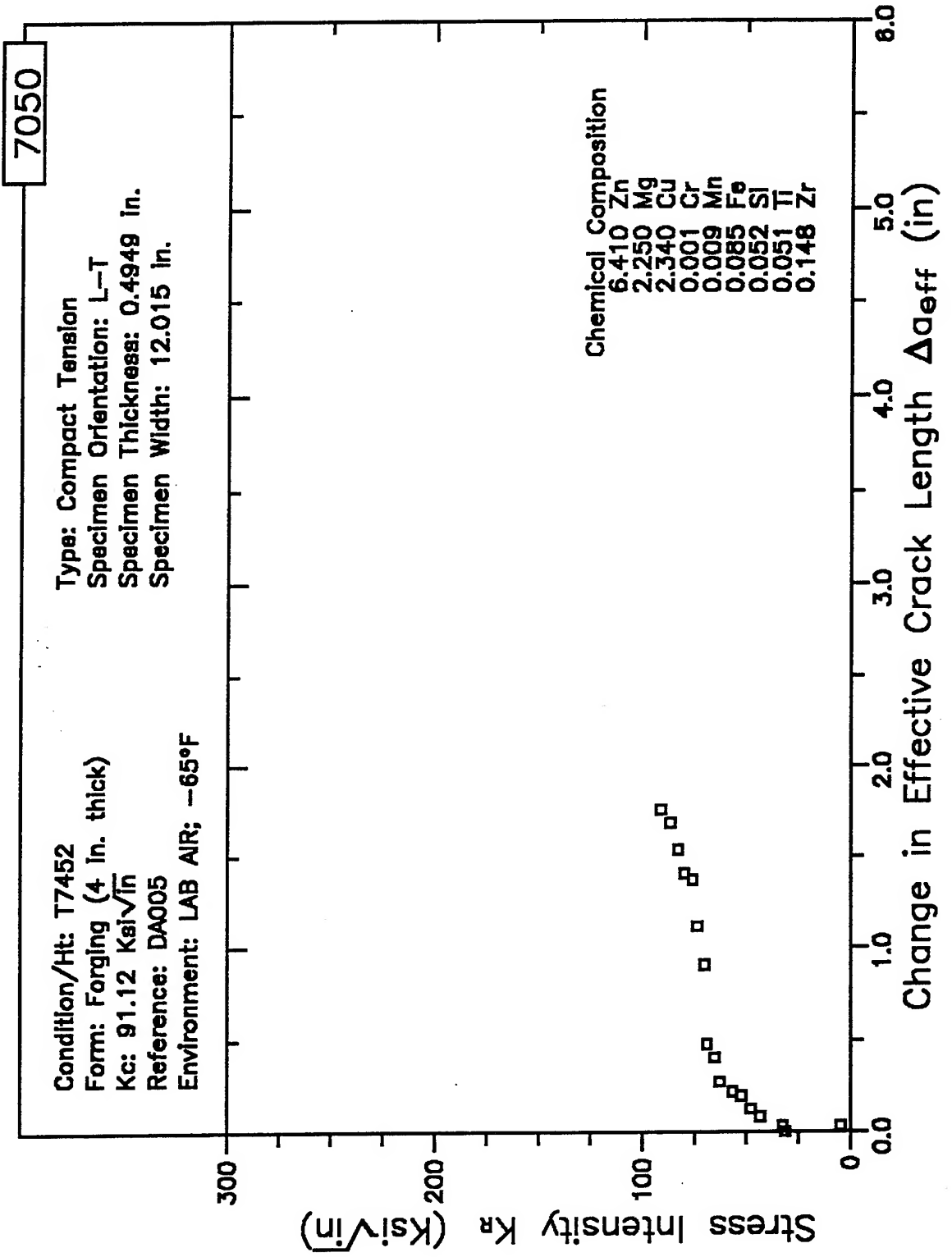


Figure 8.7.2.3.22

RESISTANCE CURVE

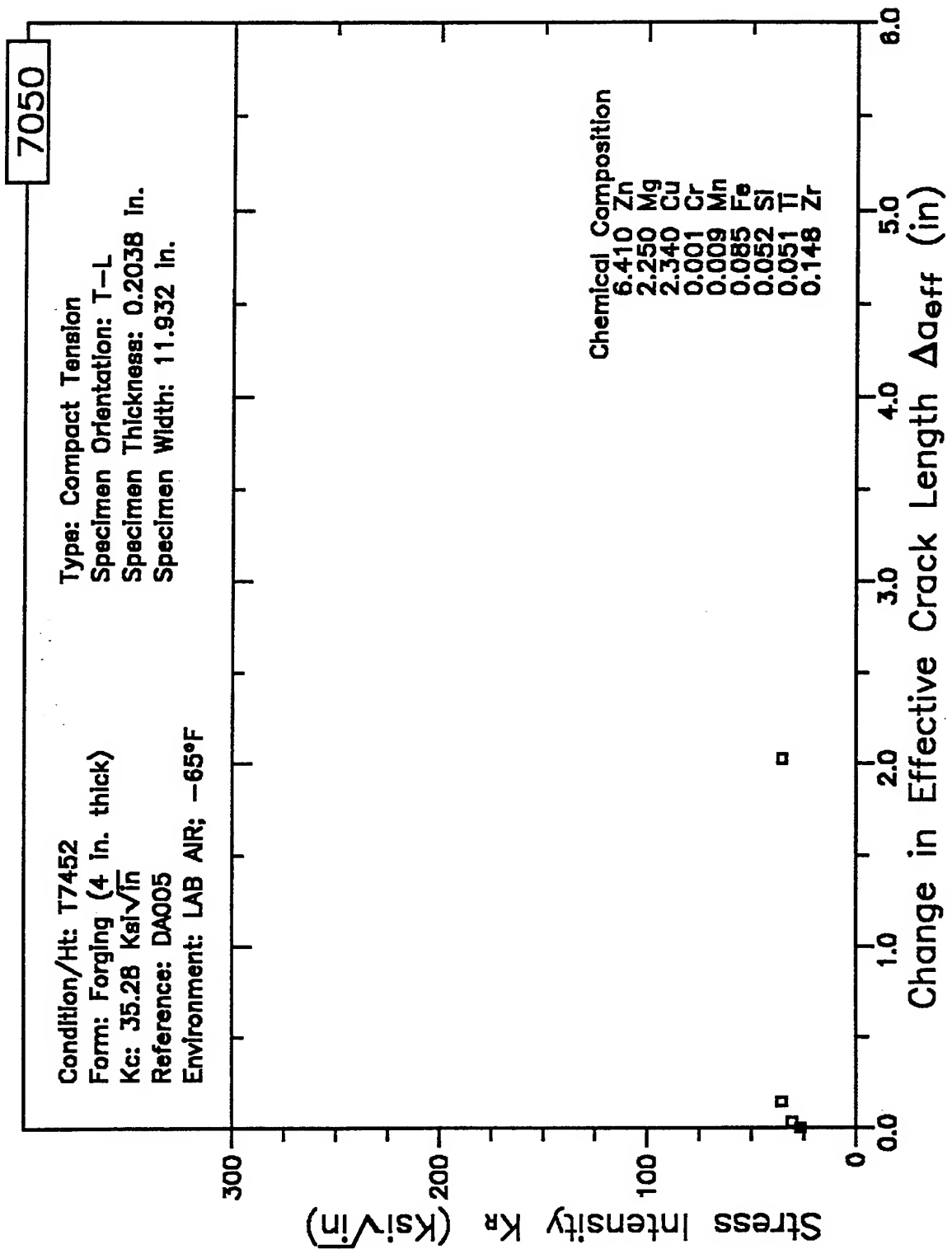


Figure 8.7.2.3.23

RESISTANCE CURVE

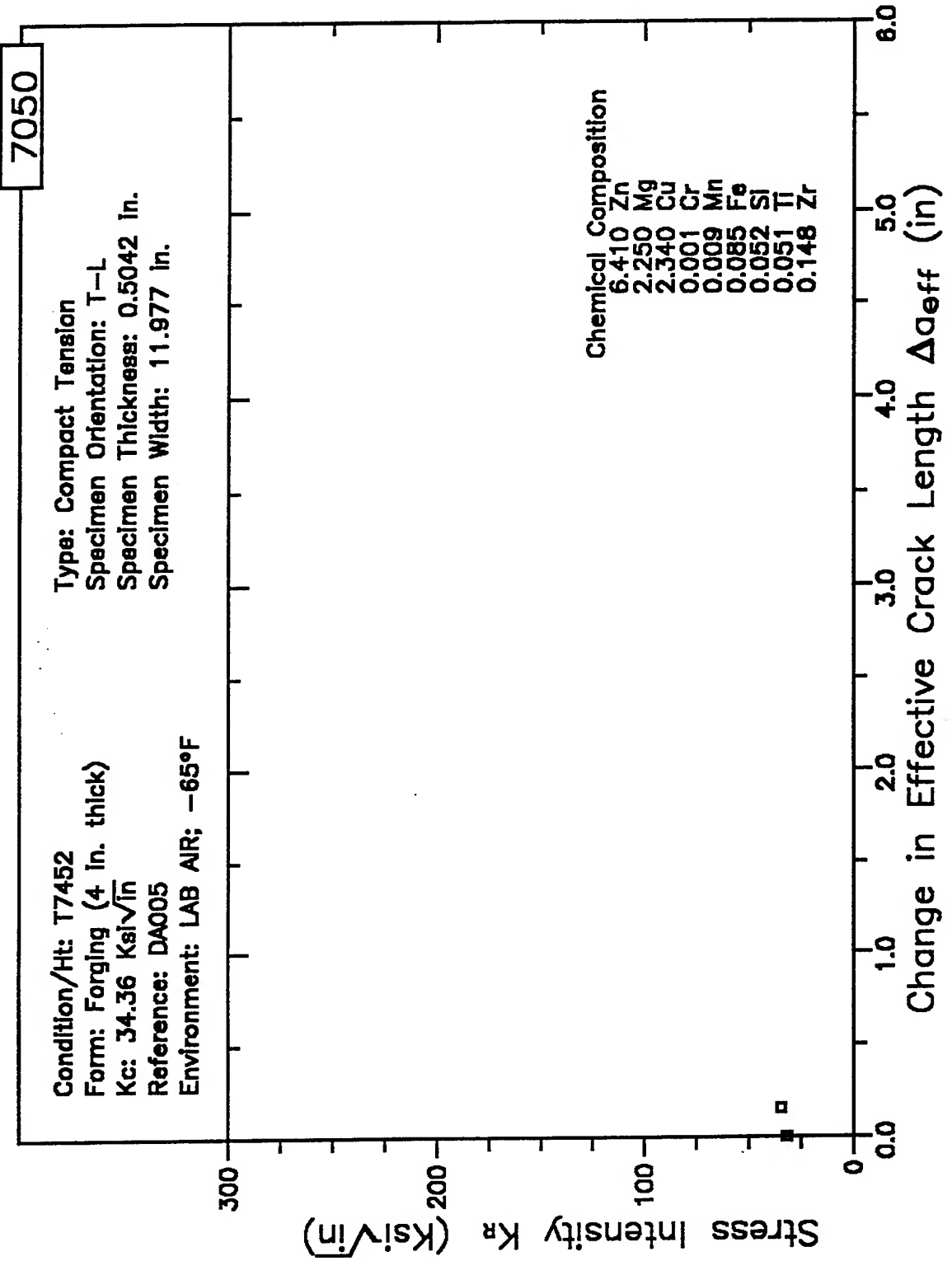


Figure 8.7.2.3.24

RESISTANCE CURVE

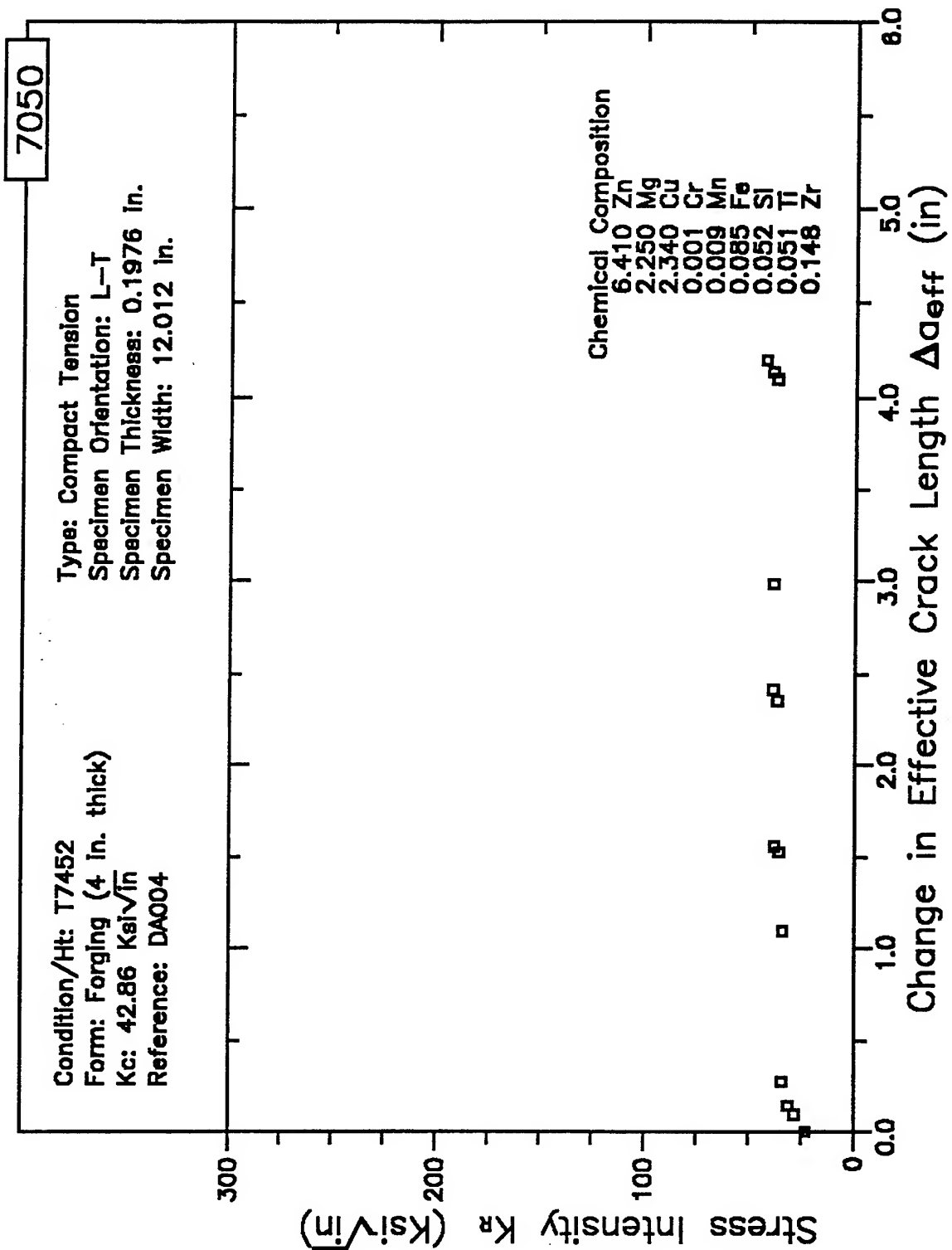


Figure 8.7.2.3.25

RESISTANCE CURVE

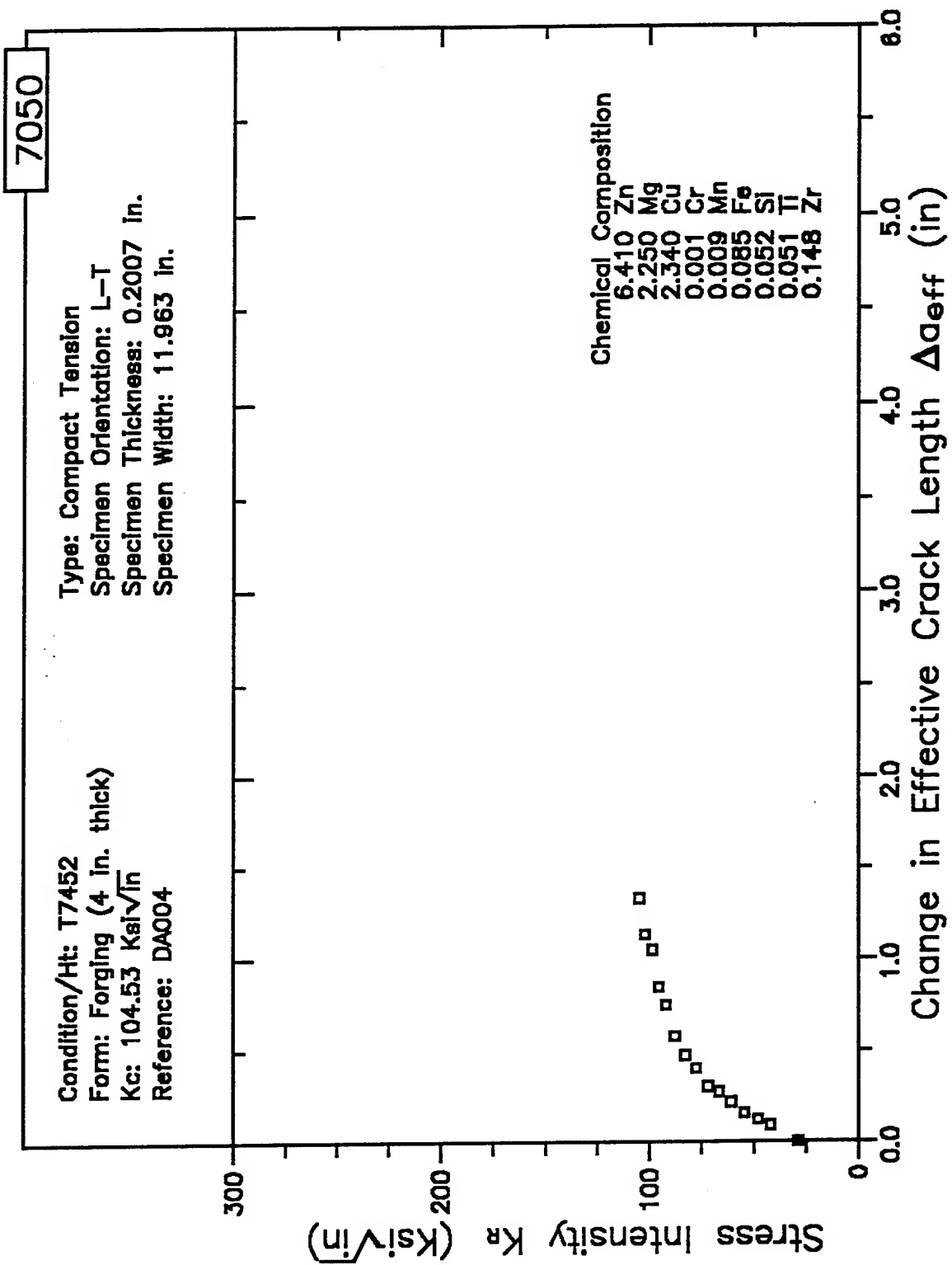


Figure 8.7.2.3.26

RESISTANCE CURVE

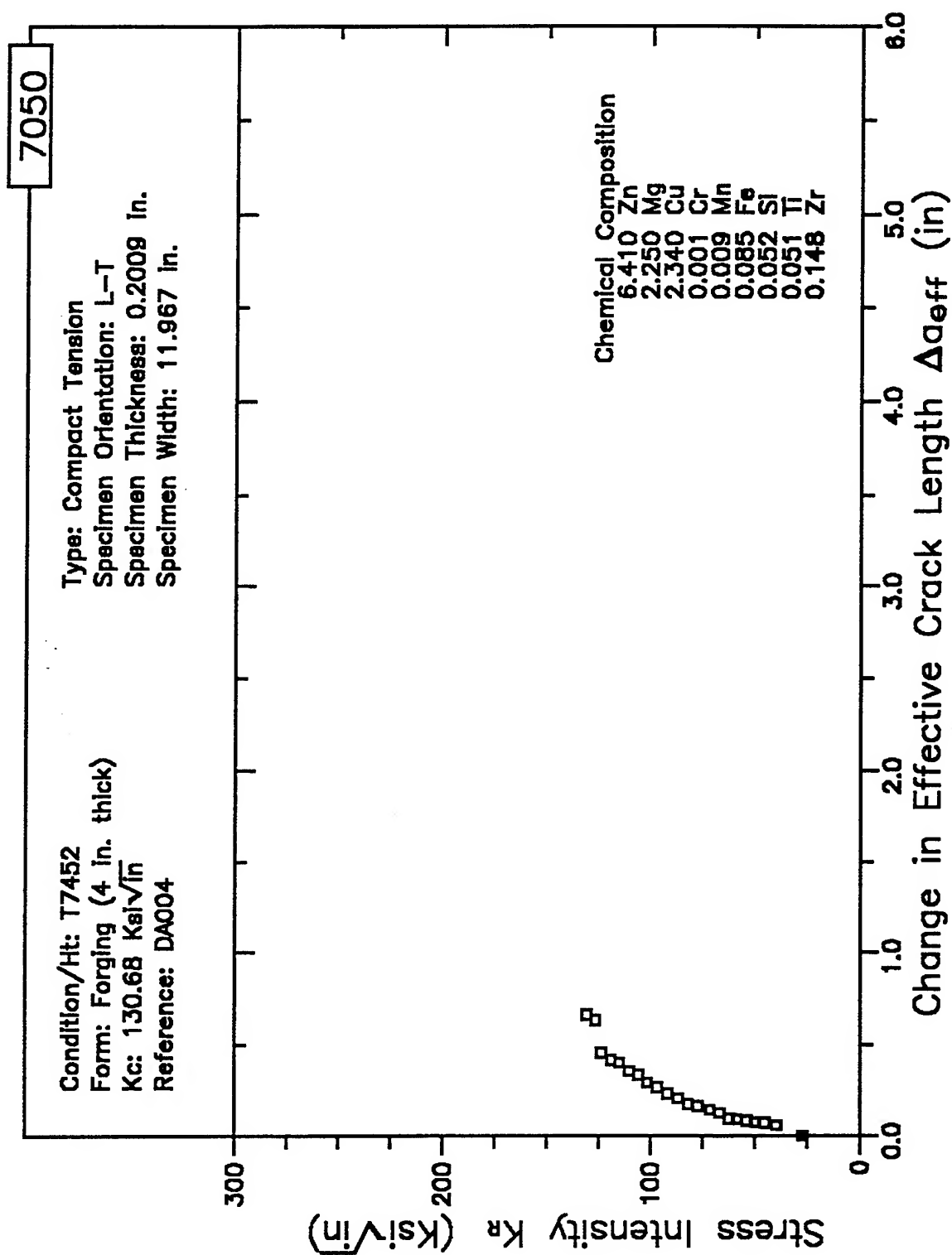


Figure 8.7.2.3.27

RESISTANCE CURVE

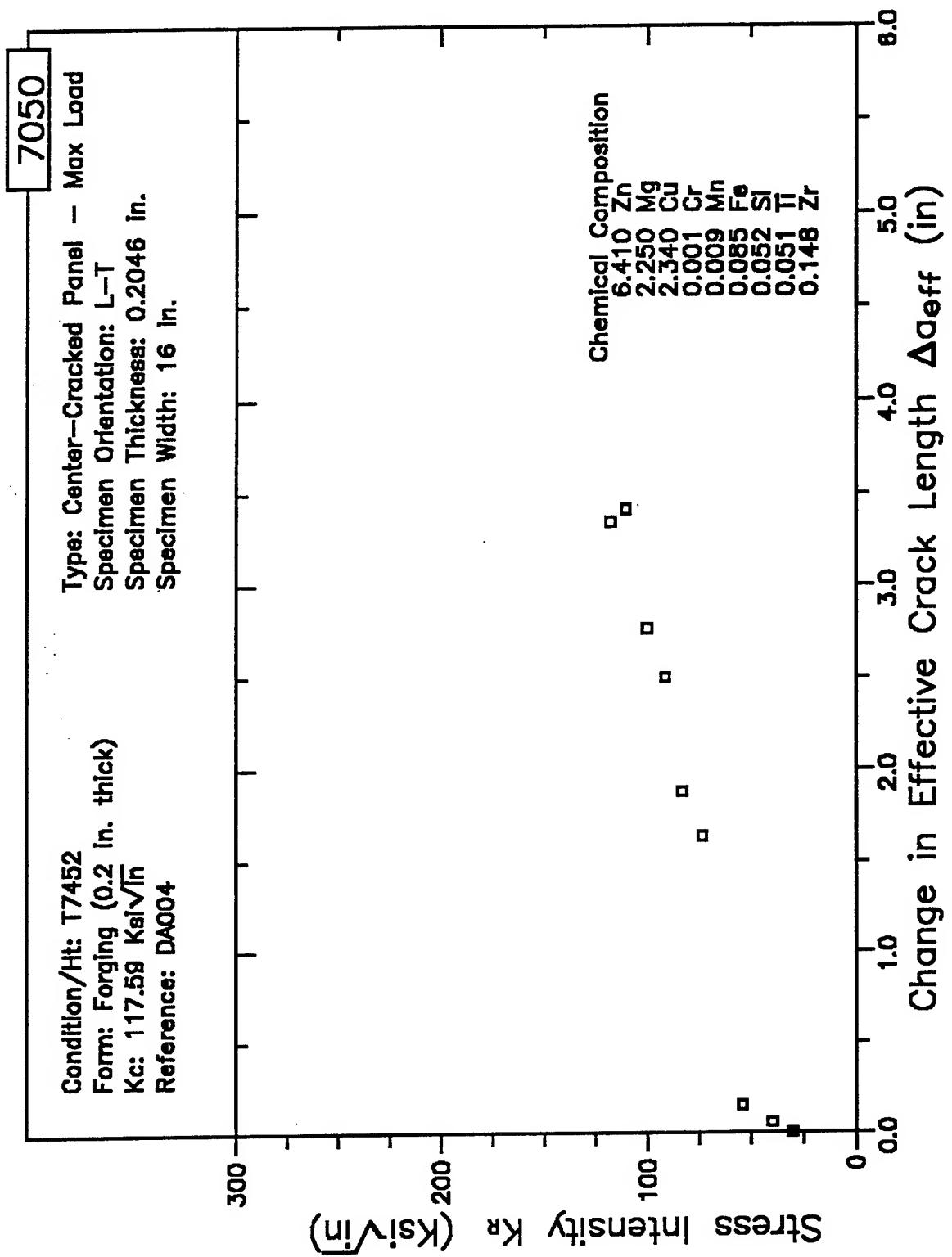


Figure 8.7.2.3.28

RESISTANCE CURVE

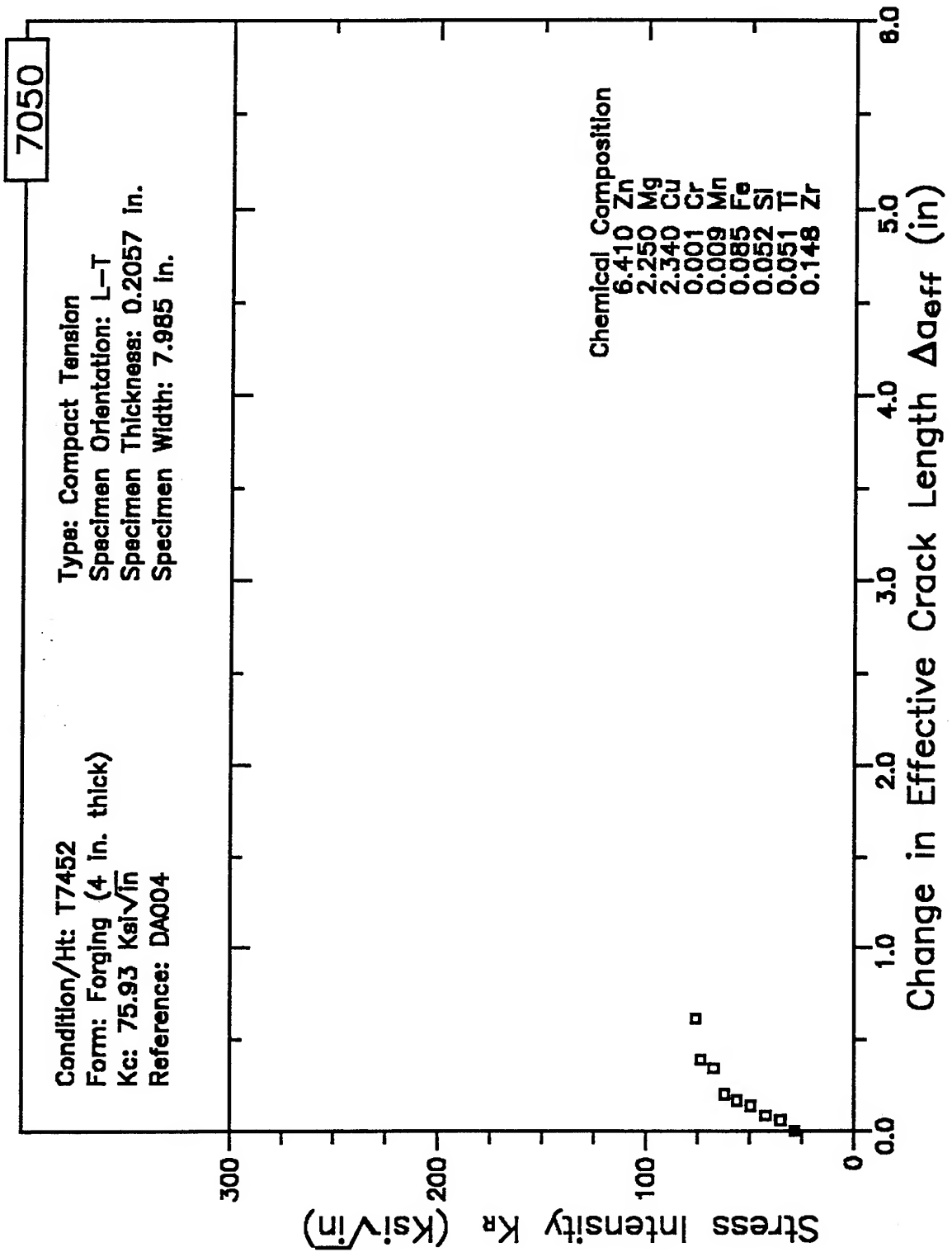


Figure 8.7.2.3.29

RESISTANCE CURVE

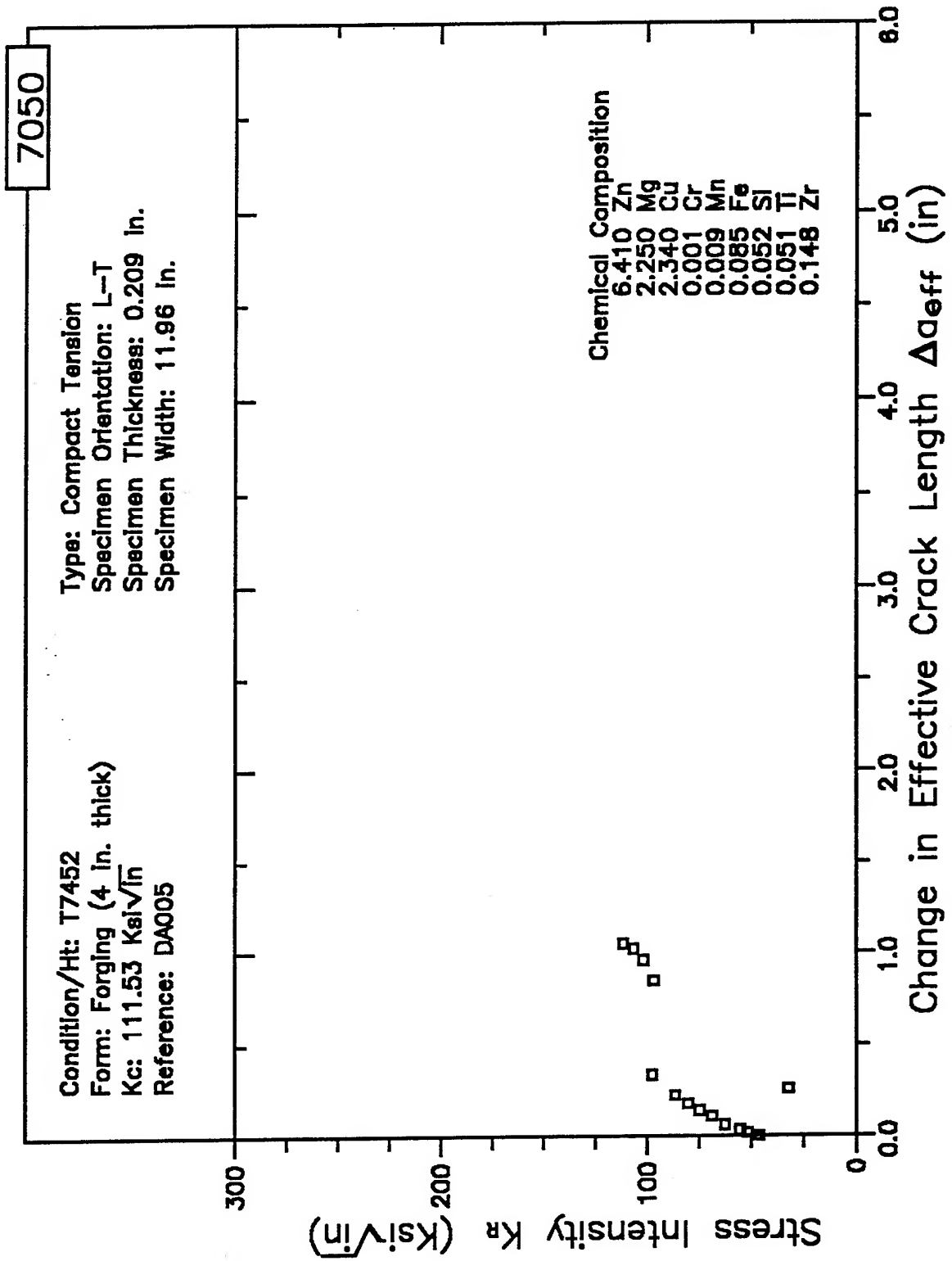


Figure 8.7.2.3.30

RESISTANCE CURVE

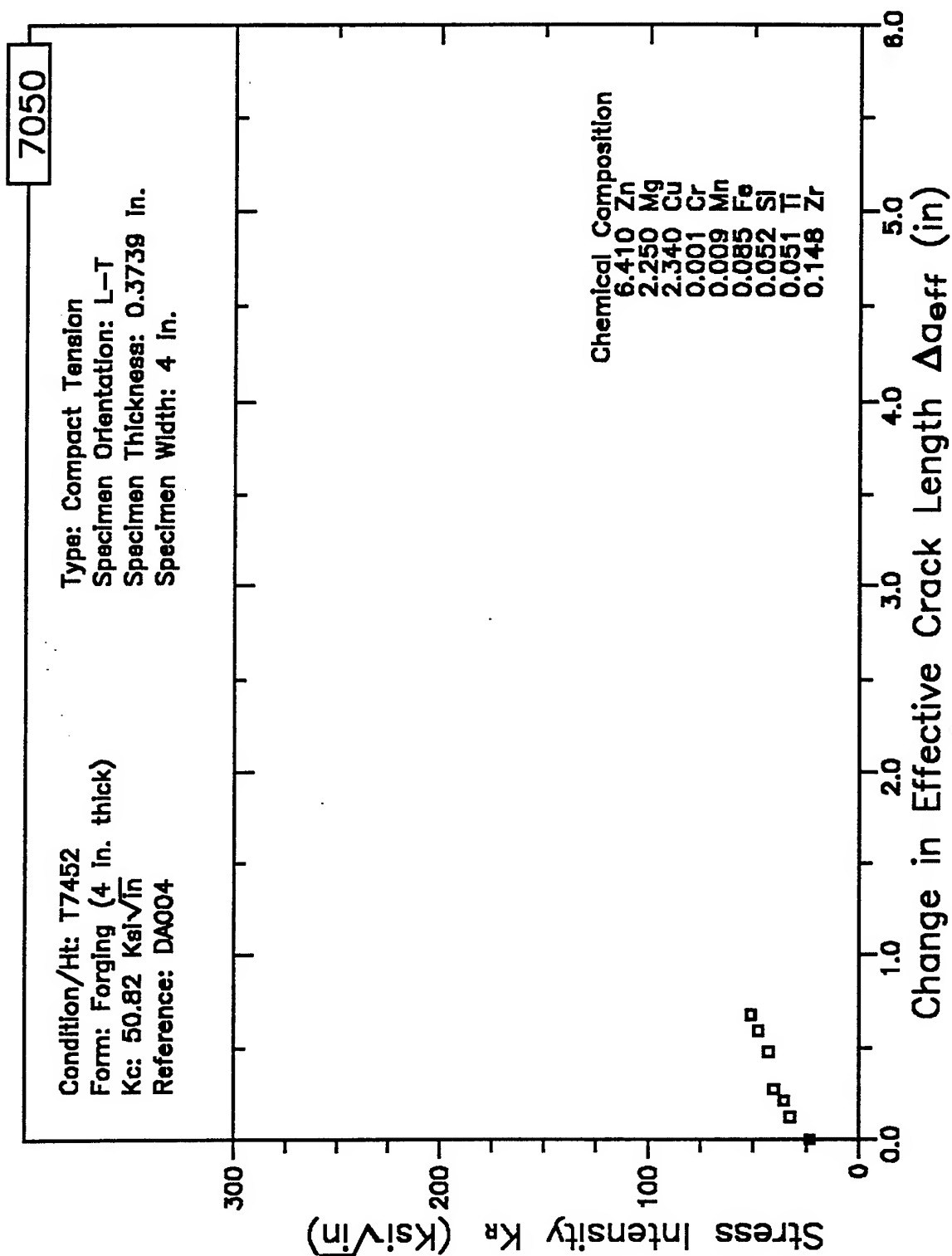


Figure 8.7.2.3.31

RESISTANCE CURVE

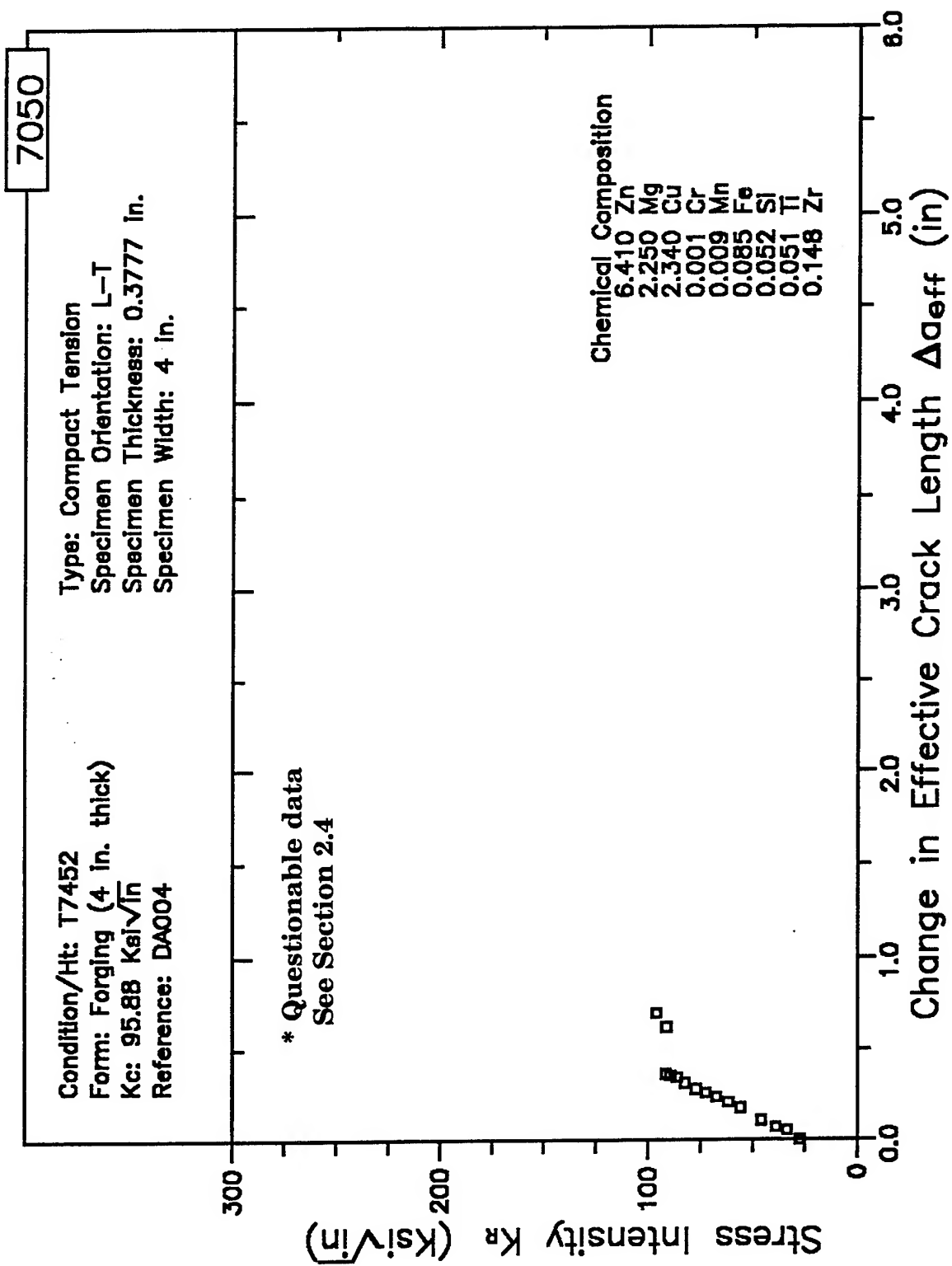


Figure 8.7.2.3.32

RESISTANCE CURVE

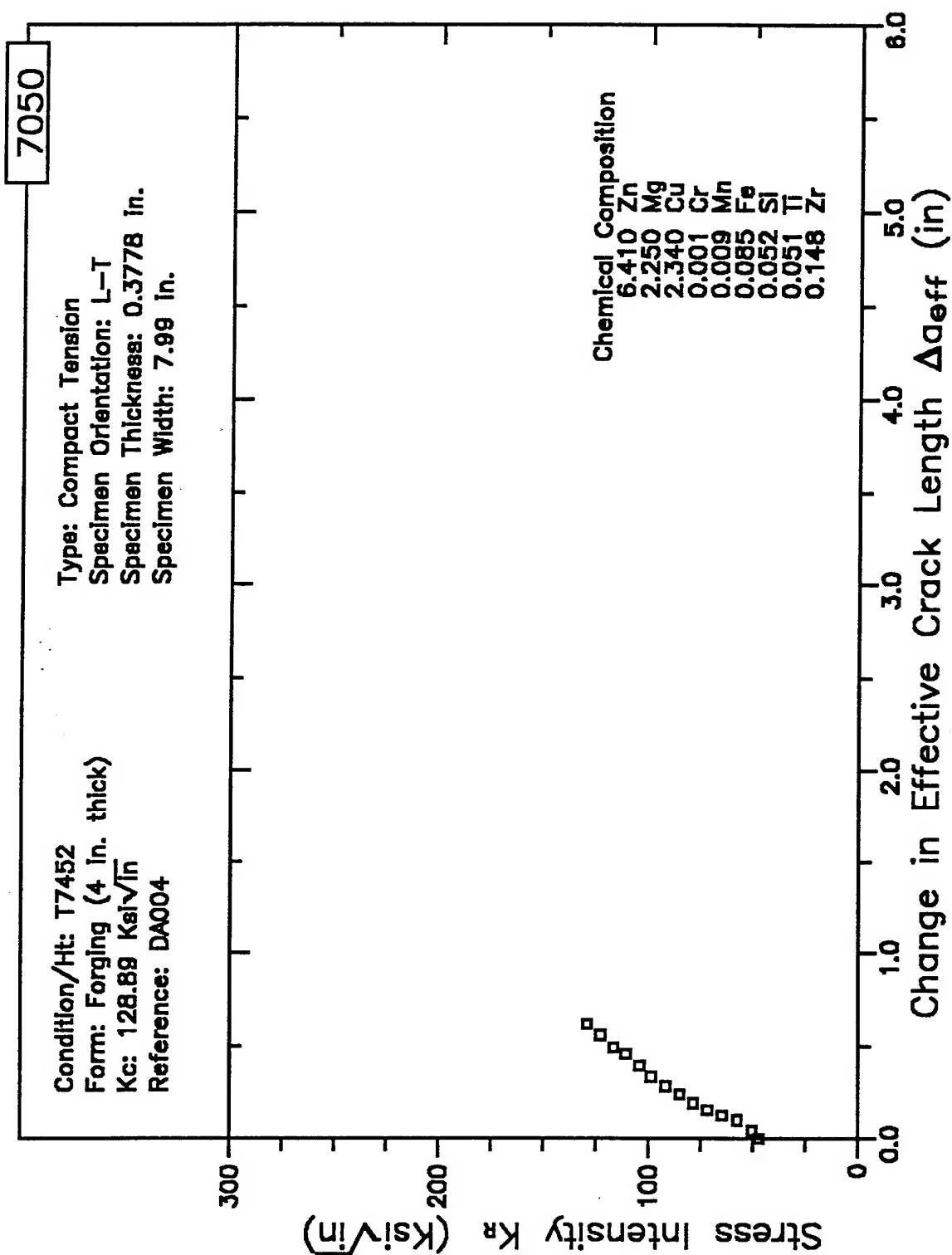


Figure 8.7.2.3.33

RESISTANCE CURVE

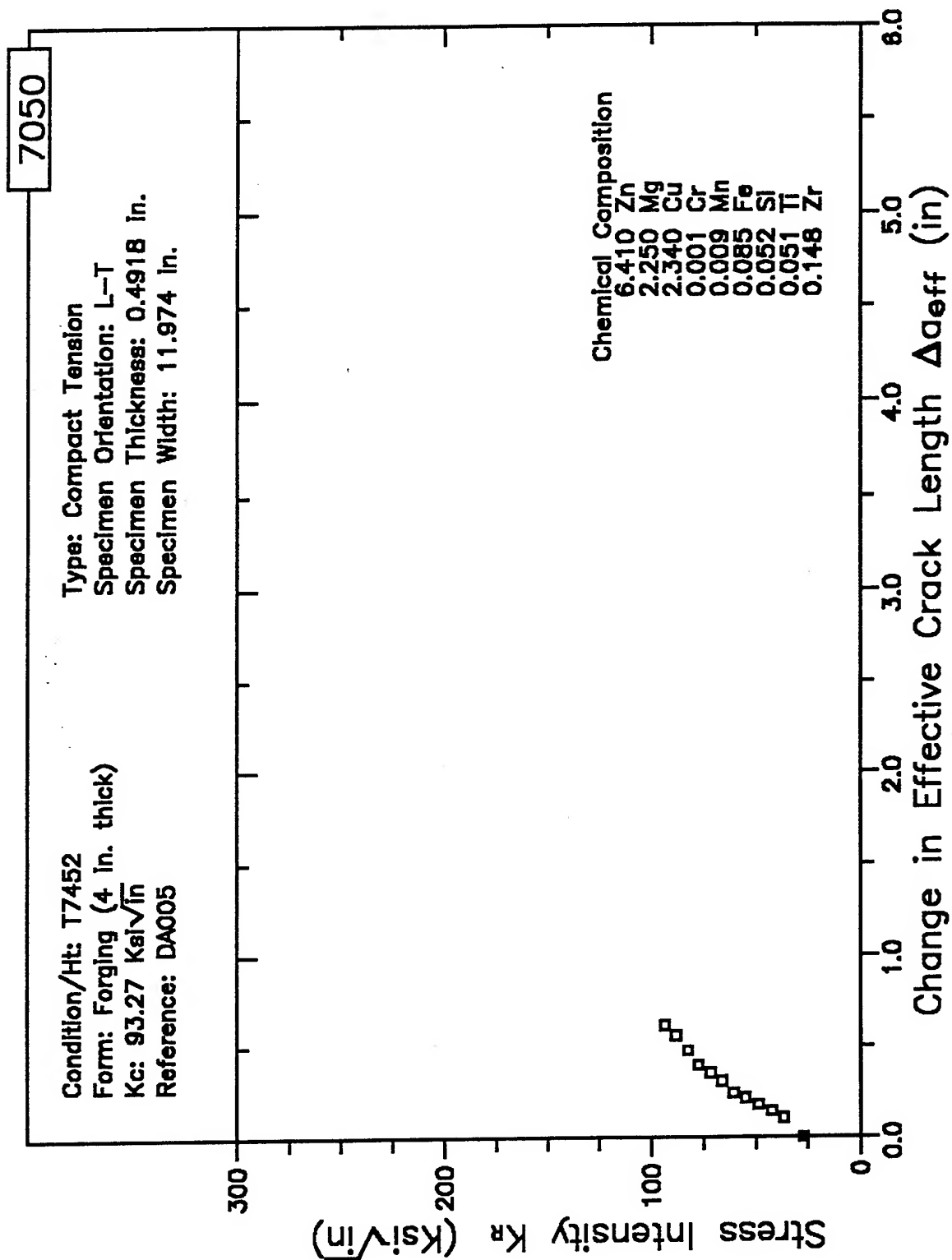


Figure 8.7.2.3.34

RESISTANCE CURVE

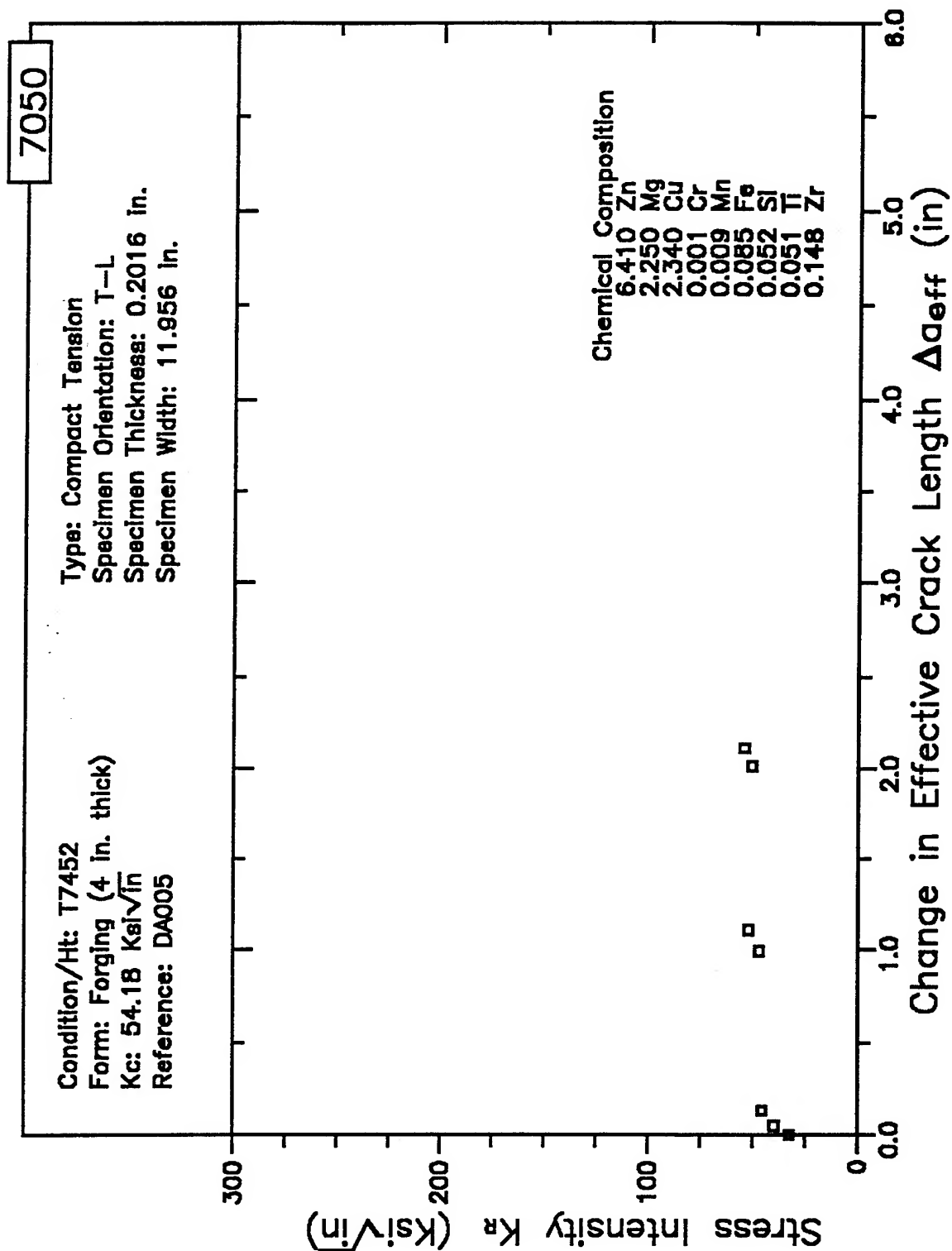


Figure 8.7.2.3.35

RESISTANCE CURVE

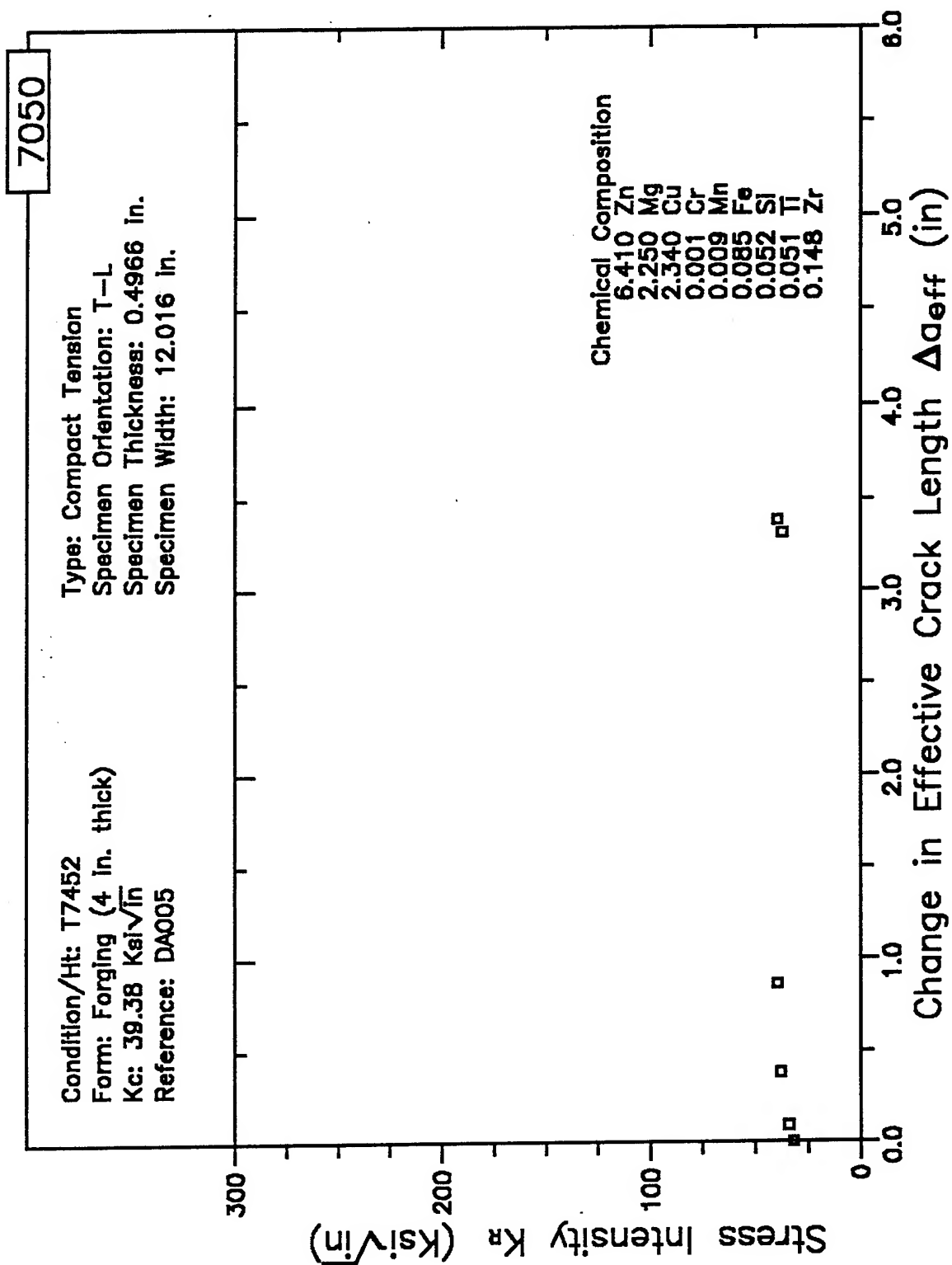


Figure 8.7.2.3.36

RESISTANCE CURVE

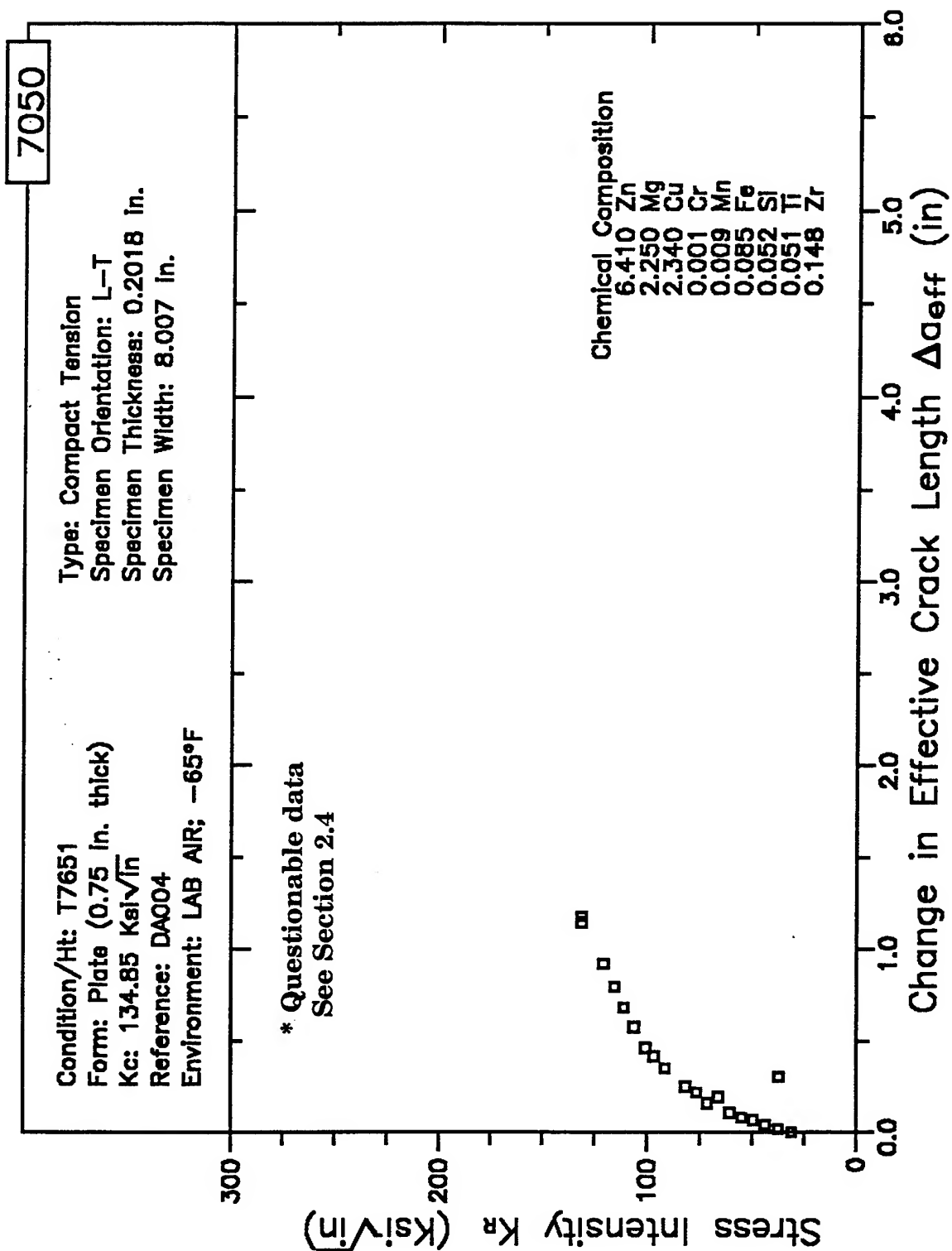


Figure 8.7.2.3.37

RESISTANCE CURVE

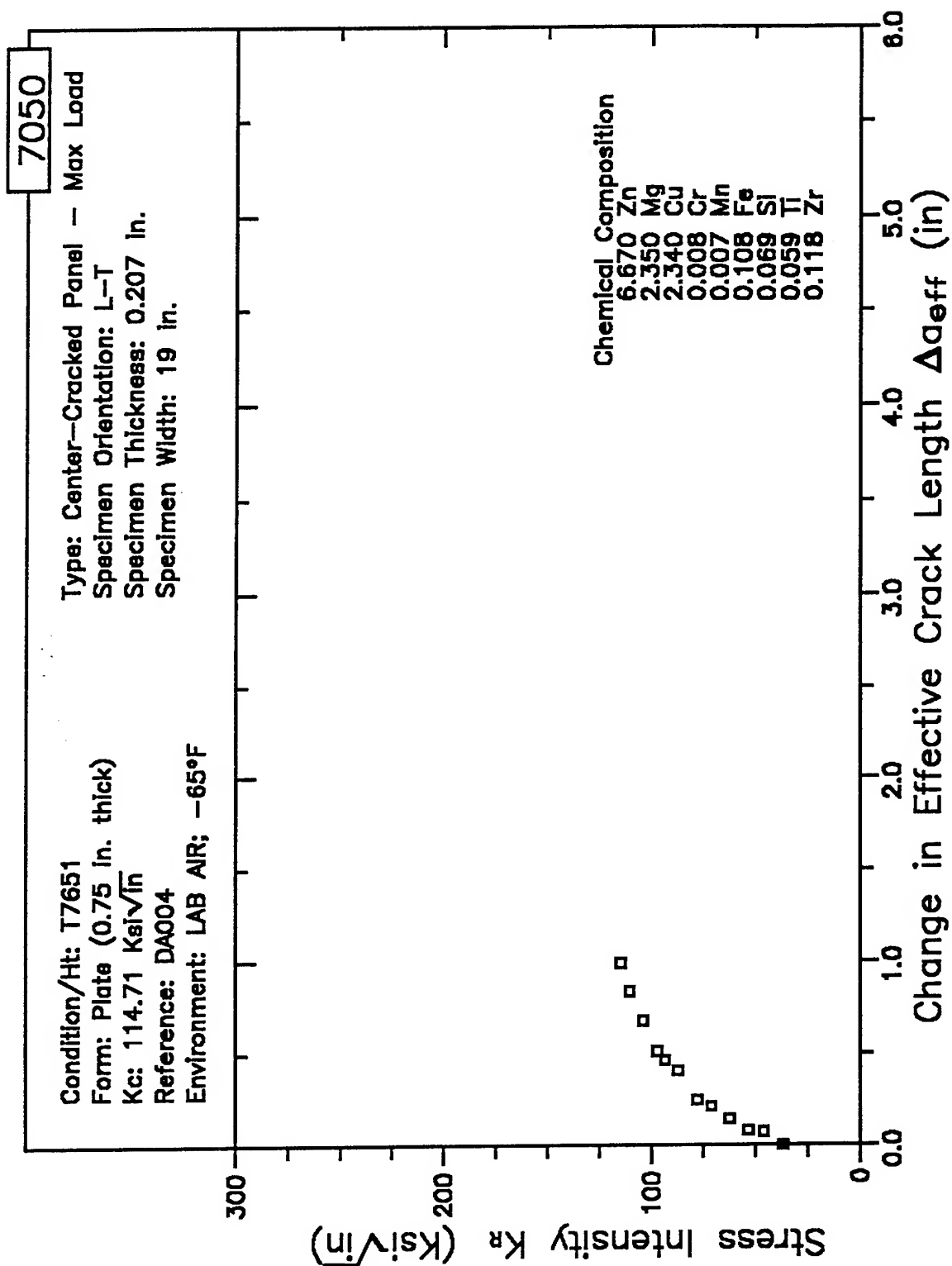


Figure 8.7.2.3.38

RESISTANCE CURVE

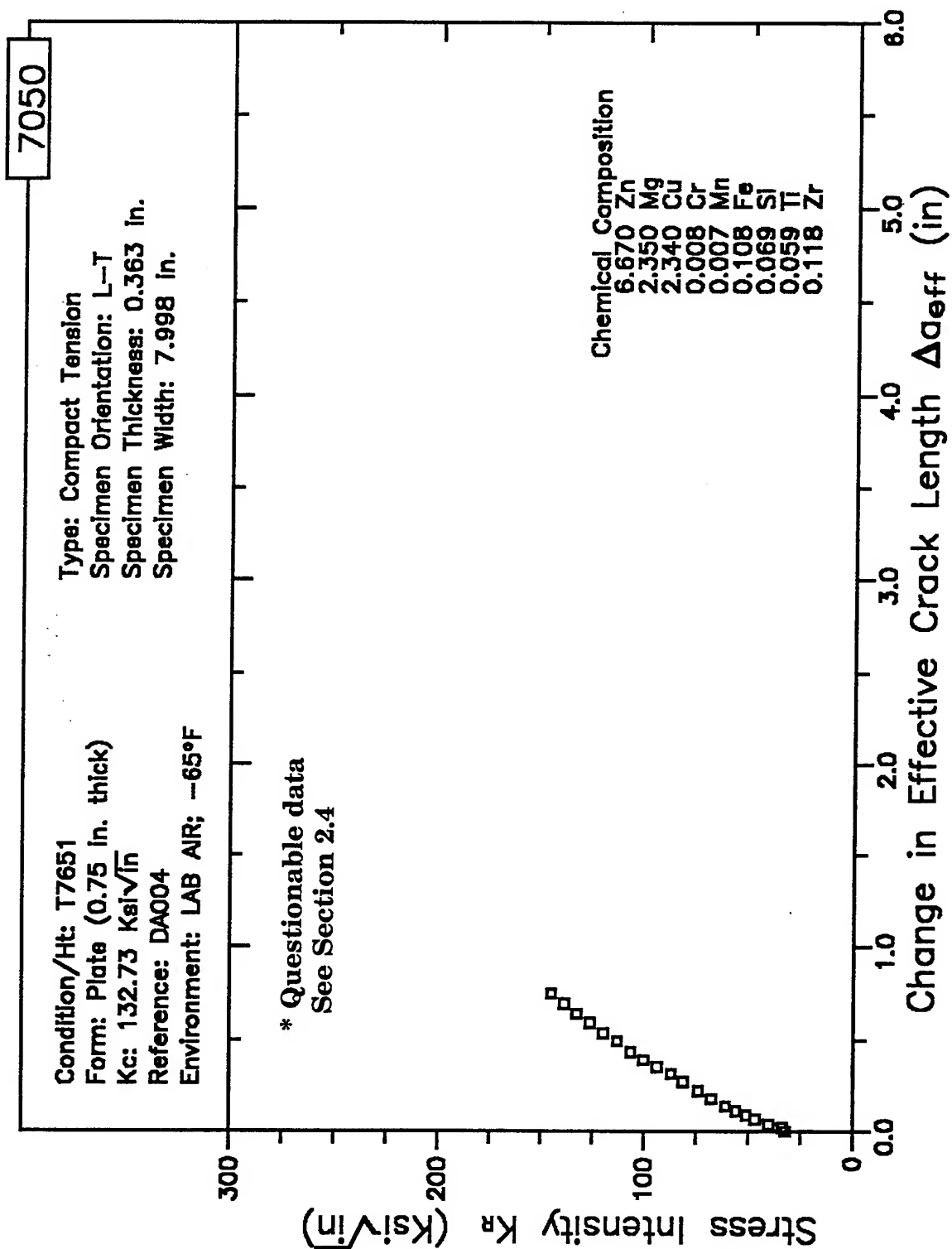


Figure 8.7.2.3.39

RESISTANCE CURVE

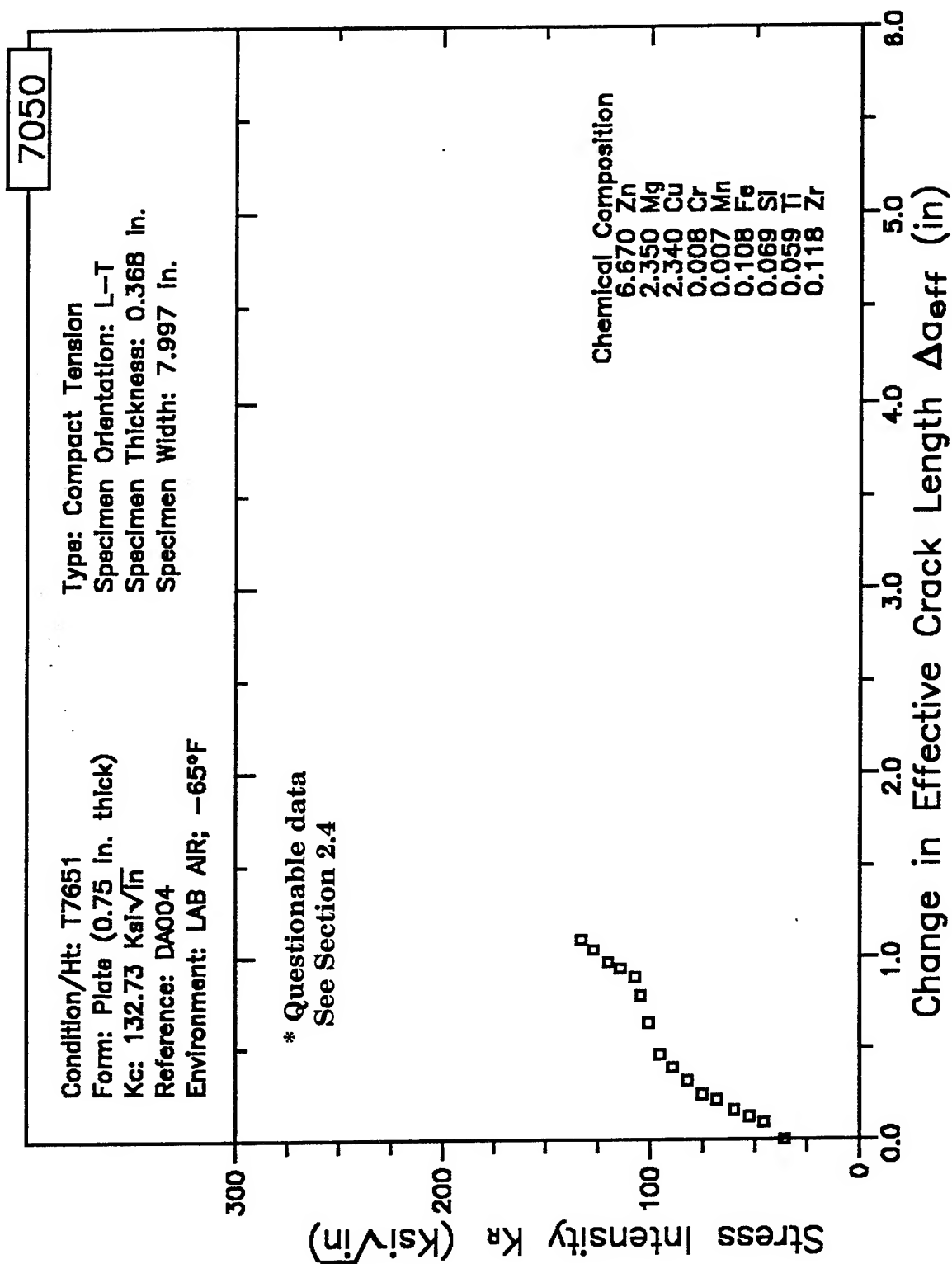


Figure 8.7.2.3.40

RESISTANCE CURVE

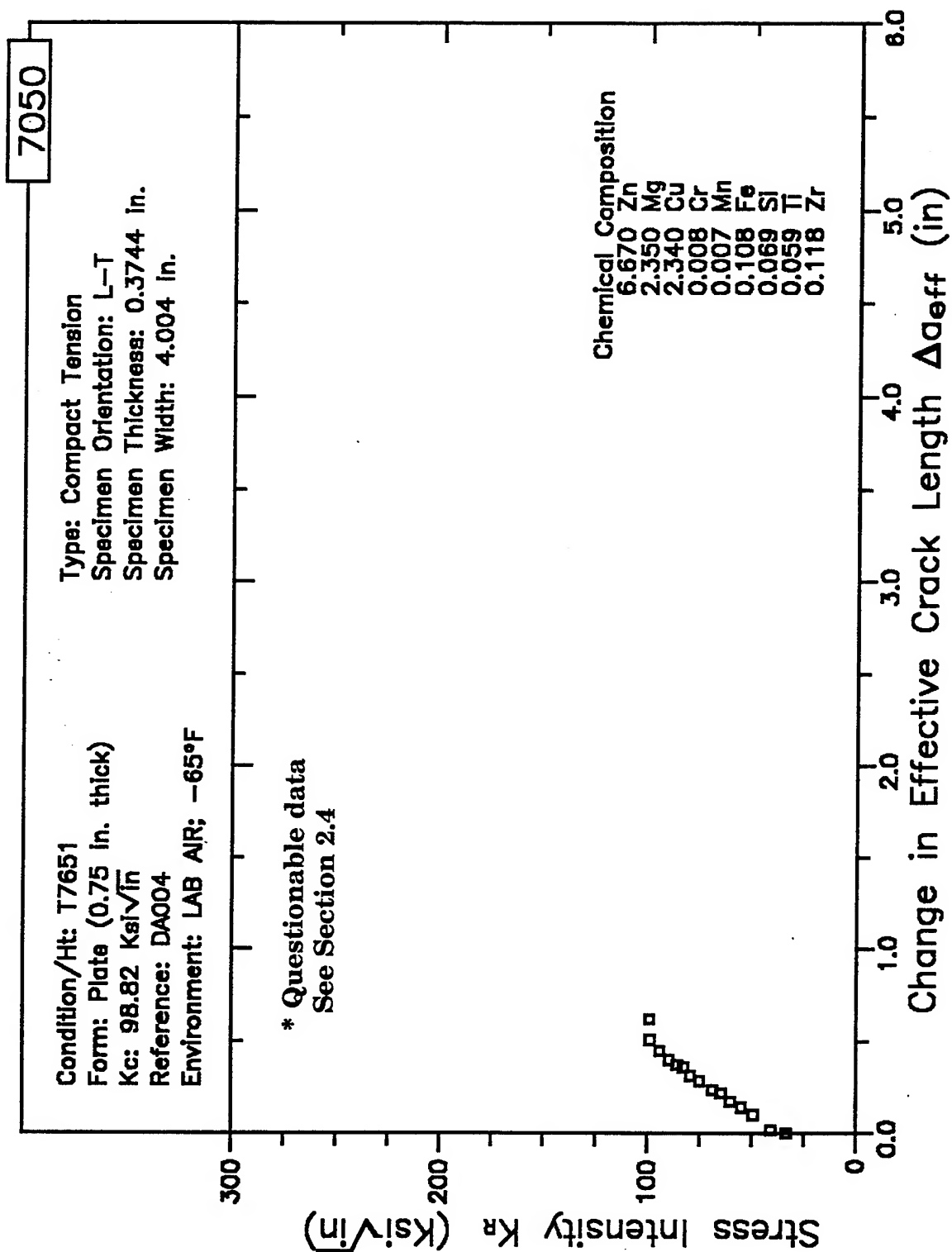


Figure 8.7.2.3.41

RESISTANCE CURVE

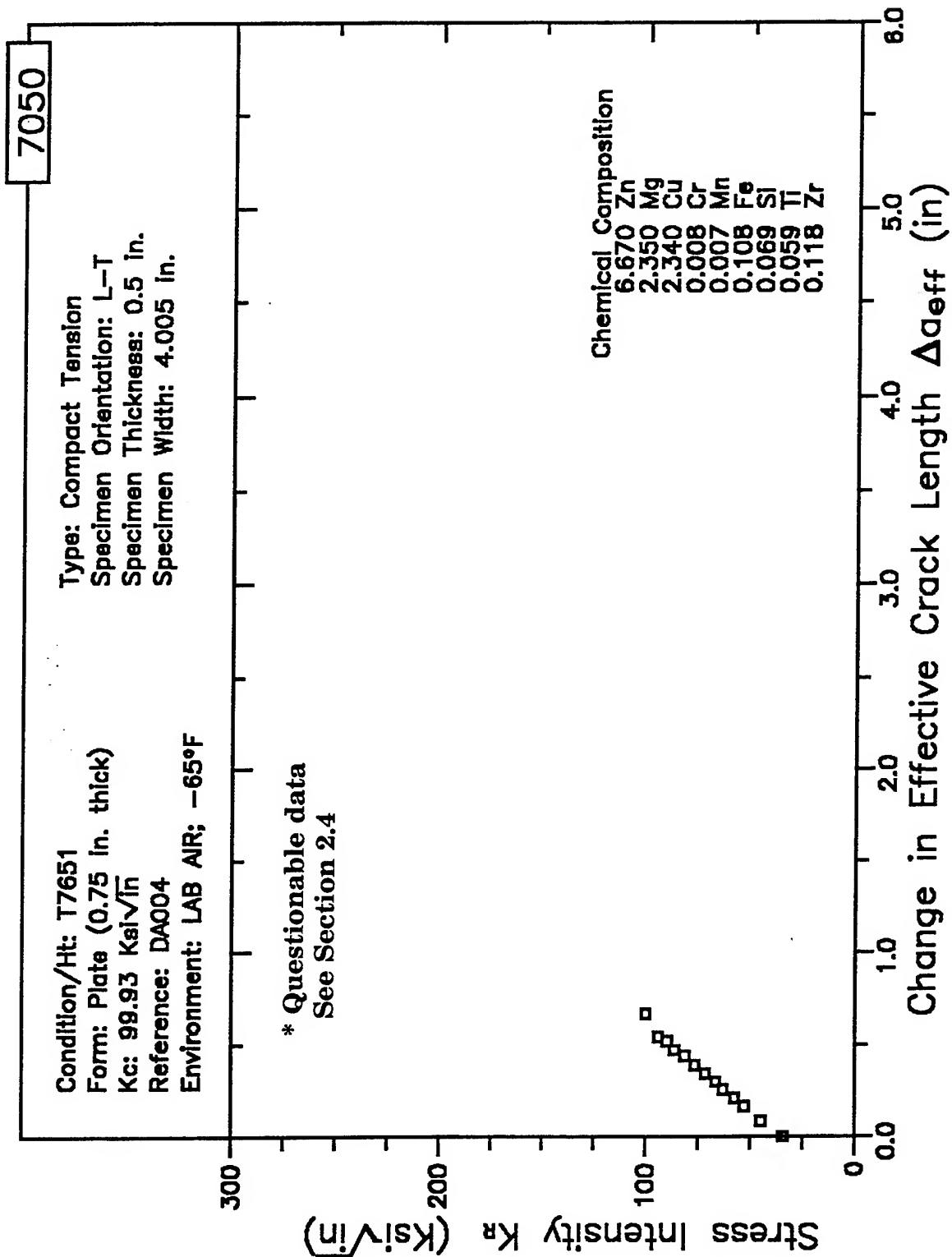


Figure 8.7.2.3.42

RESISTANCE CURVE

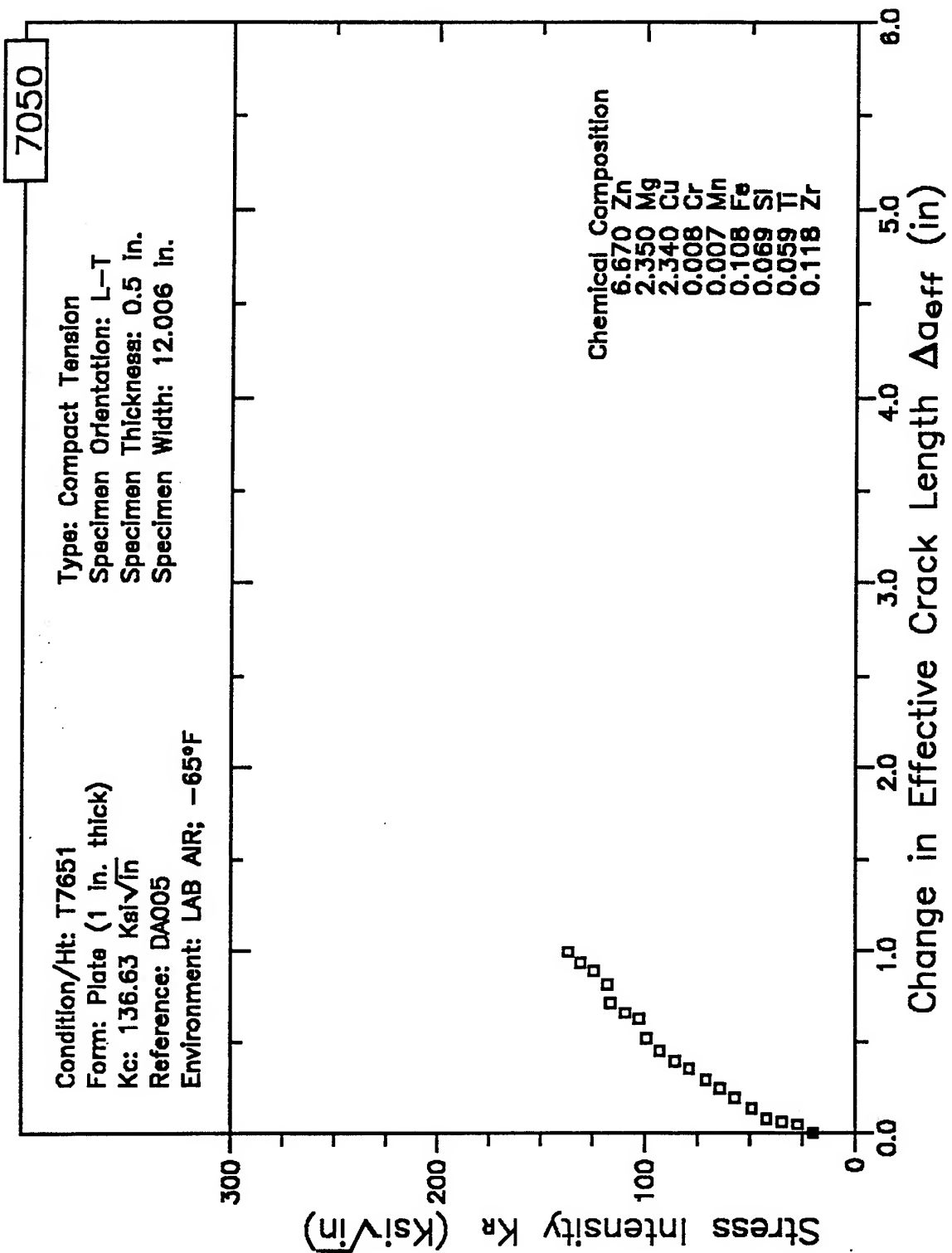


Figure 8.7.2.3.43

RESISTANCE CURVE

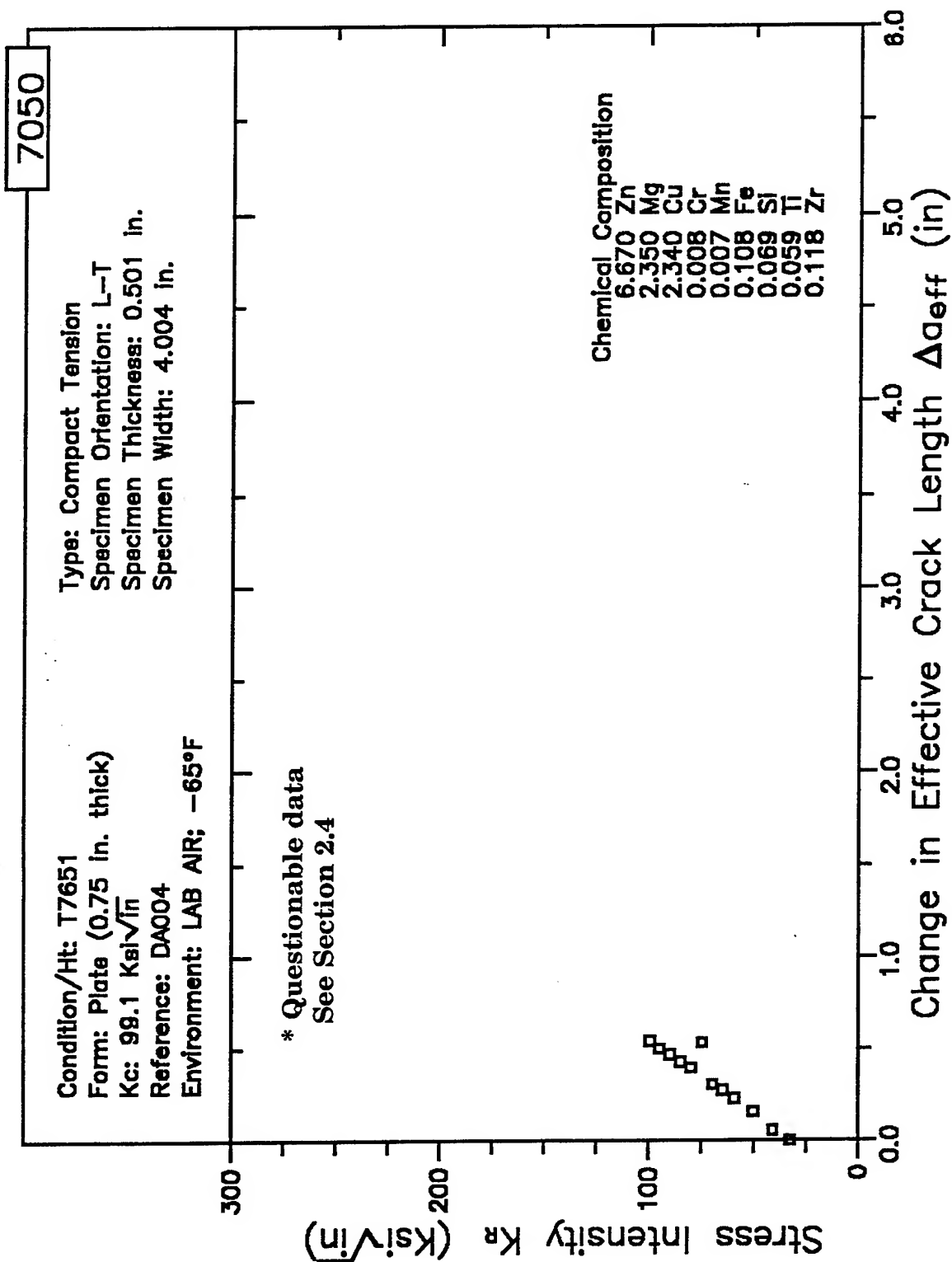


Figure 8.7.2.3.44

RESISTANCE CURVE

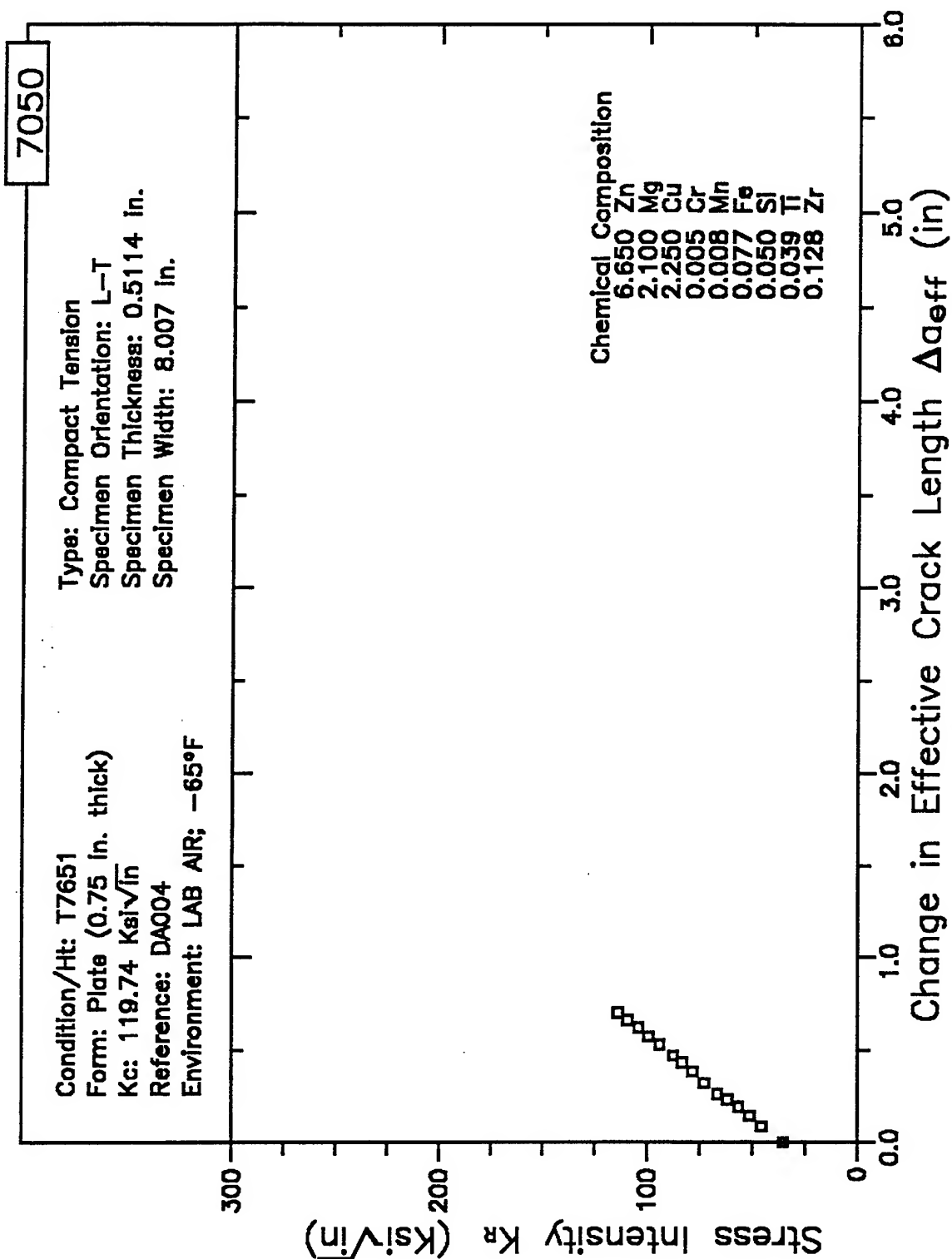


Figure 8.7.2.3.45

RESISTANCE CURVE

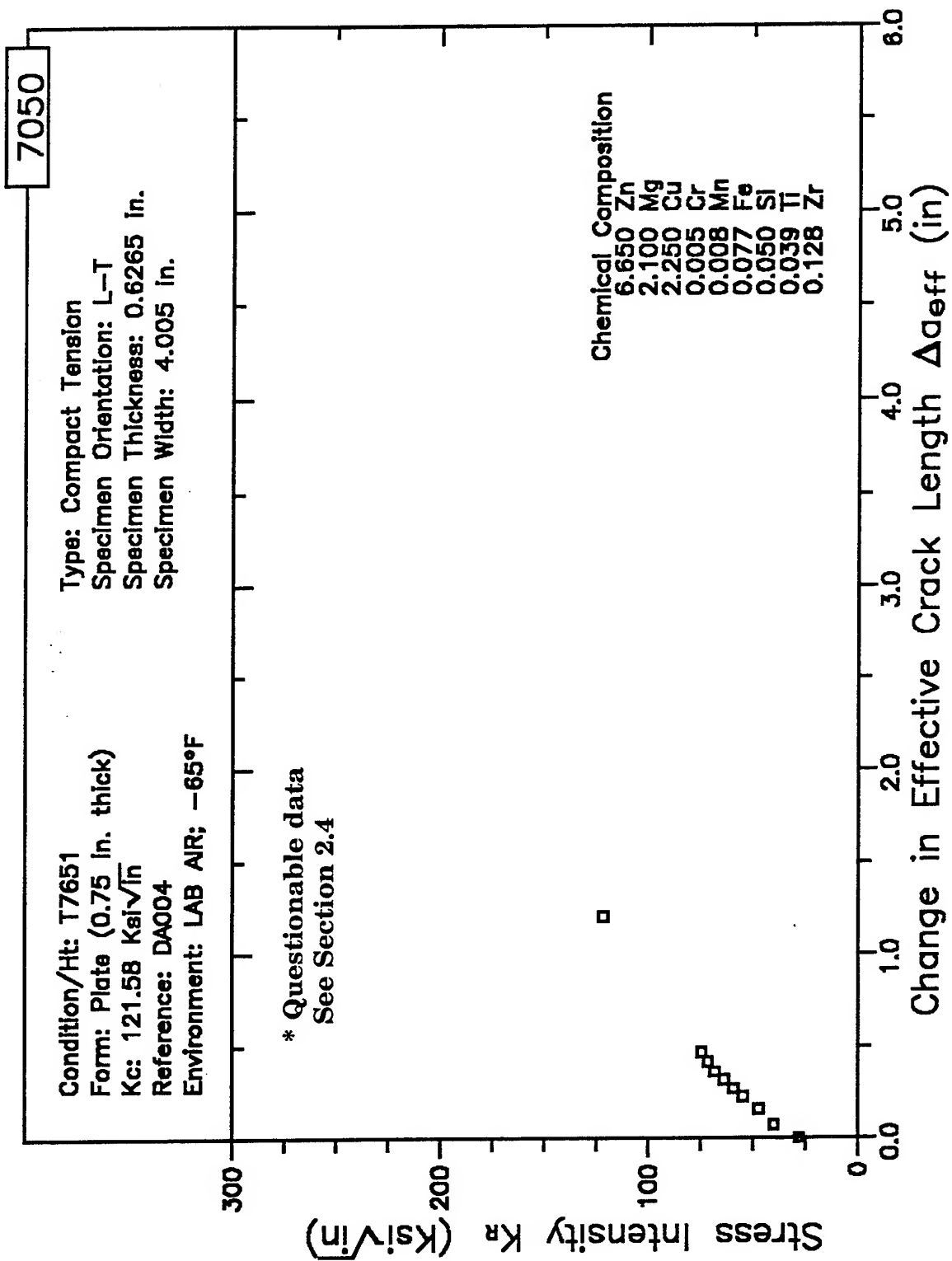


Figure 8.7.2.3.46

RESISTANCE CURVE

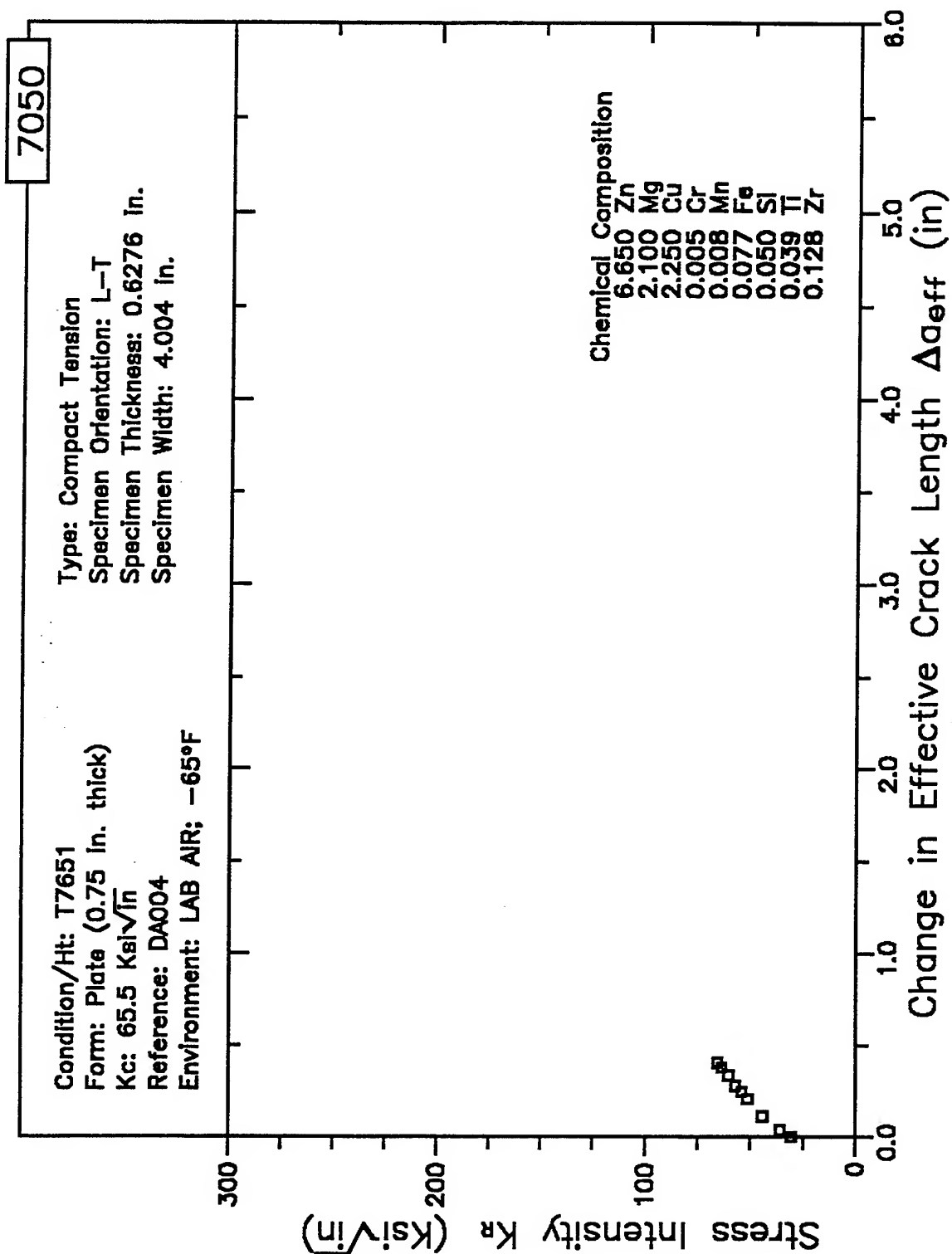


Figure 8.7.2.3.47

RESISTANCE CURVE

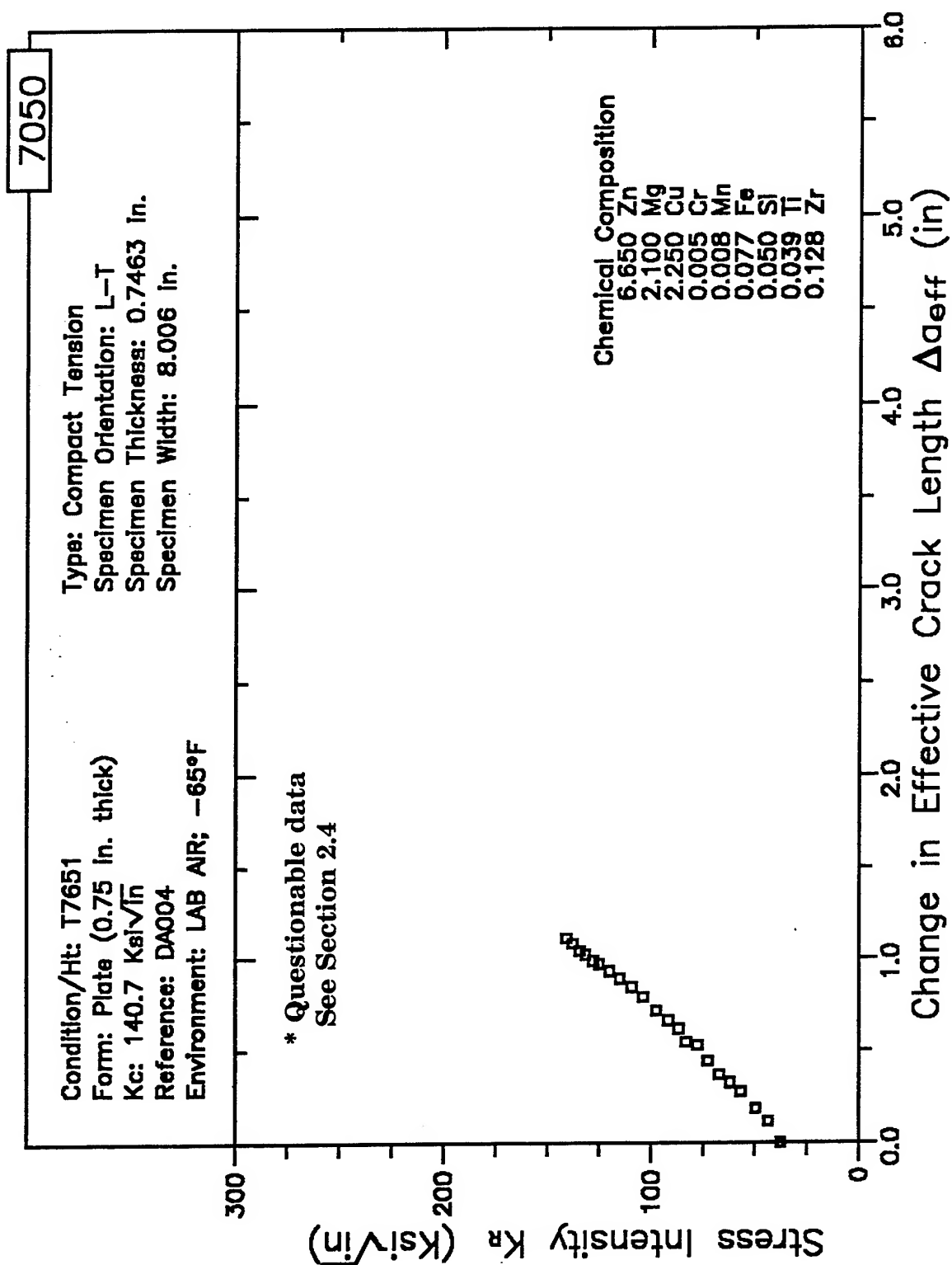


Figure 8.7.2.3.48

RESISTANCE CURVE

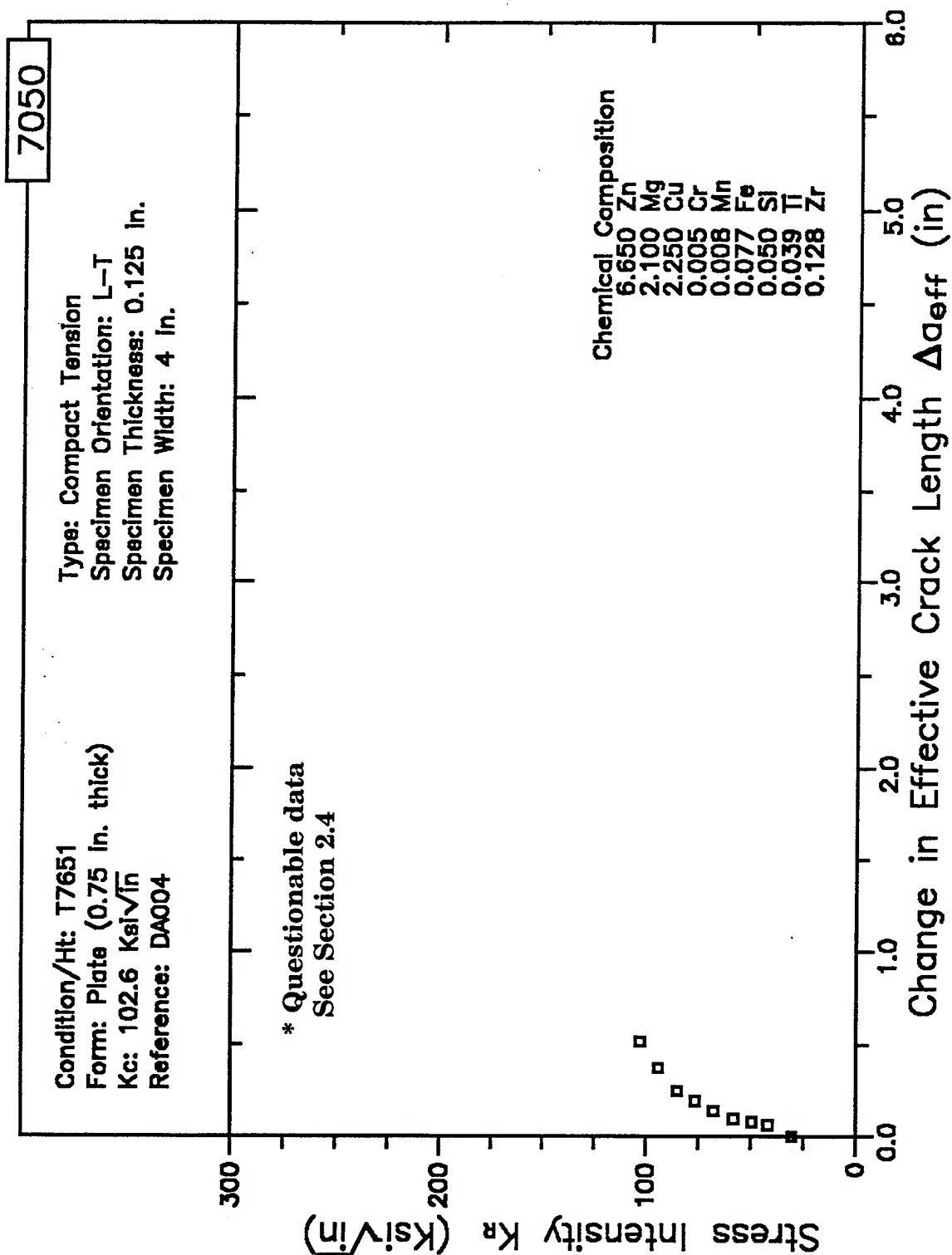


Figure 8.7.2.3.49

RESISTANCE CURVE

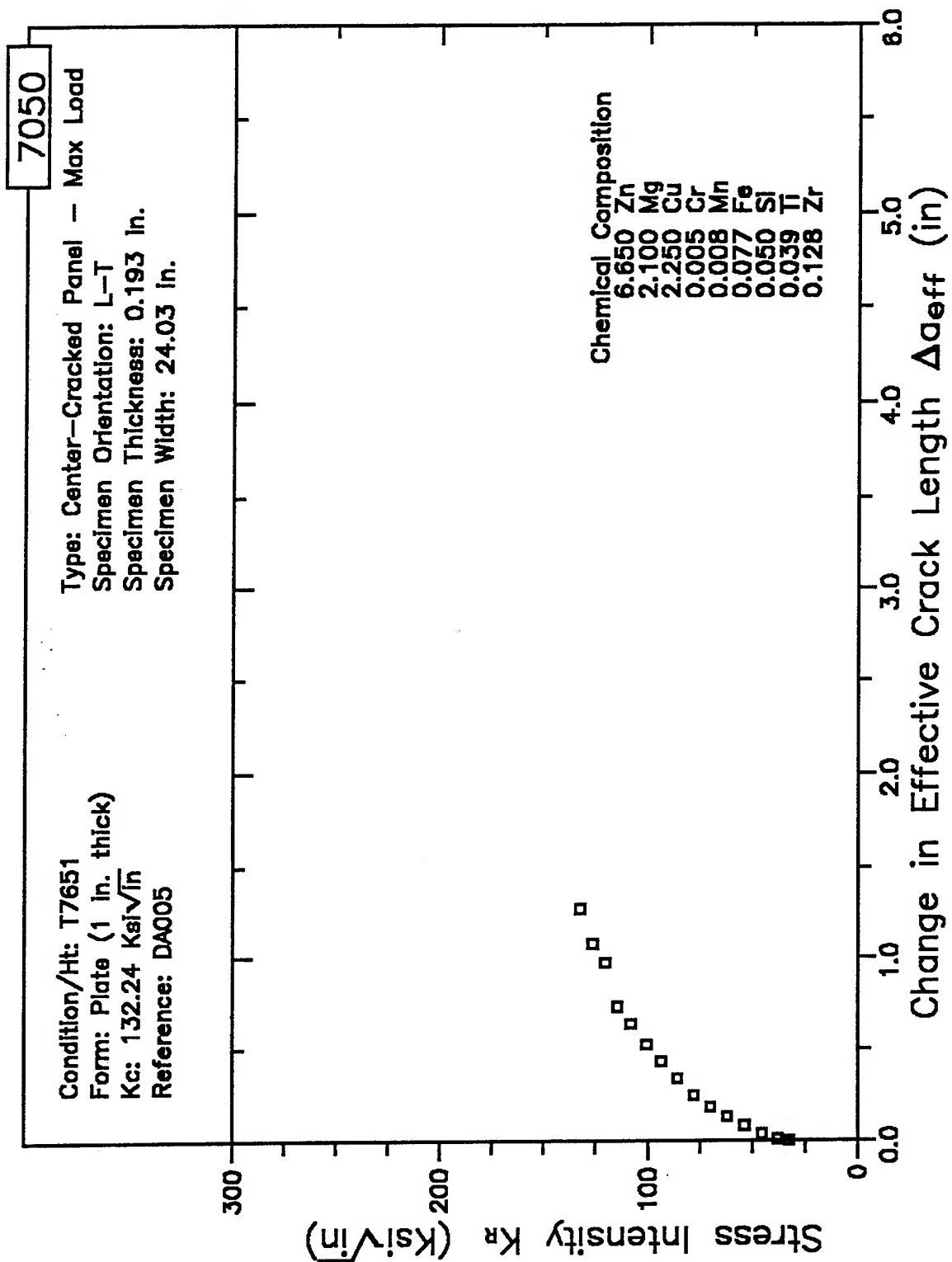


Figure 8.7.2.3.50

RESISTANCE CURVE

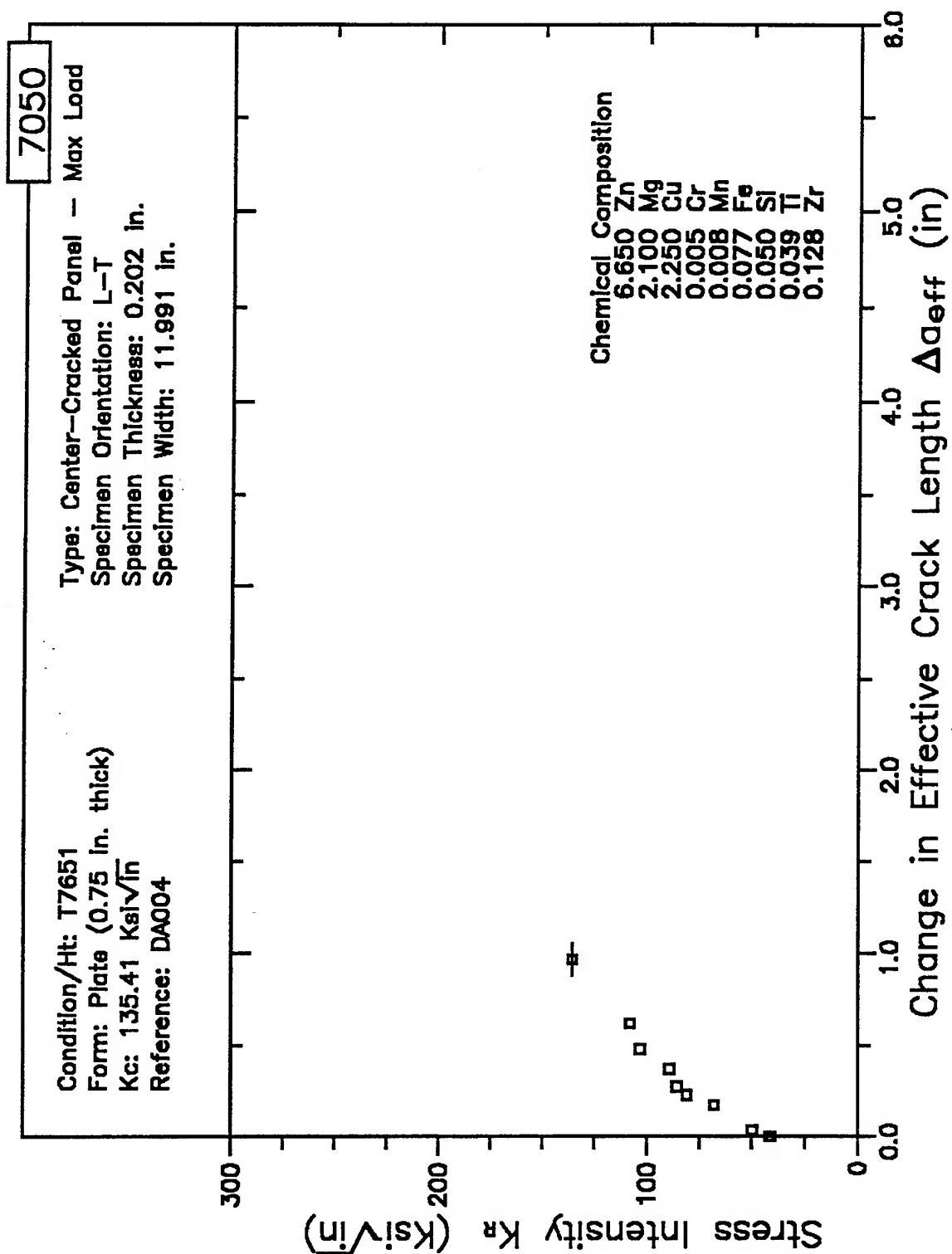


Figure 8.7.2.3.51

RESISTANCE CURVE

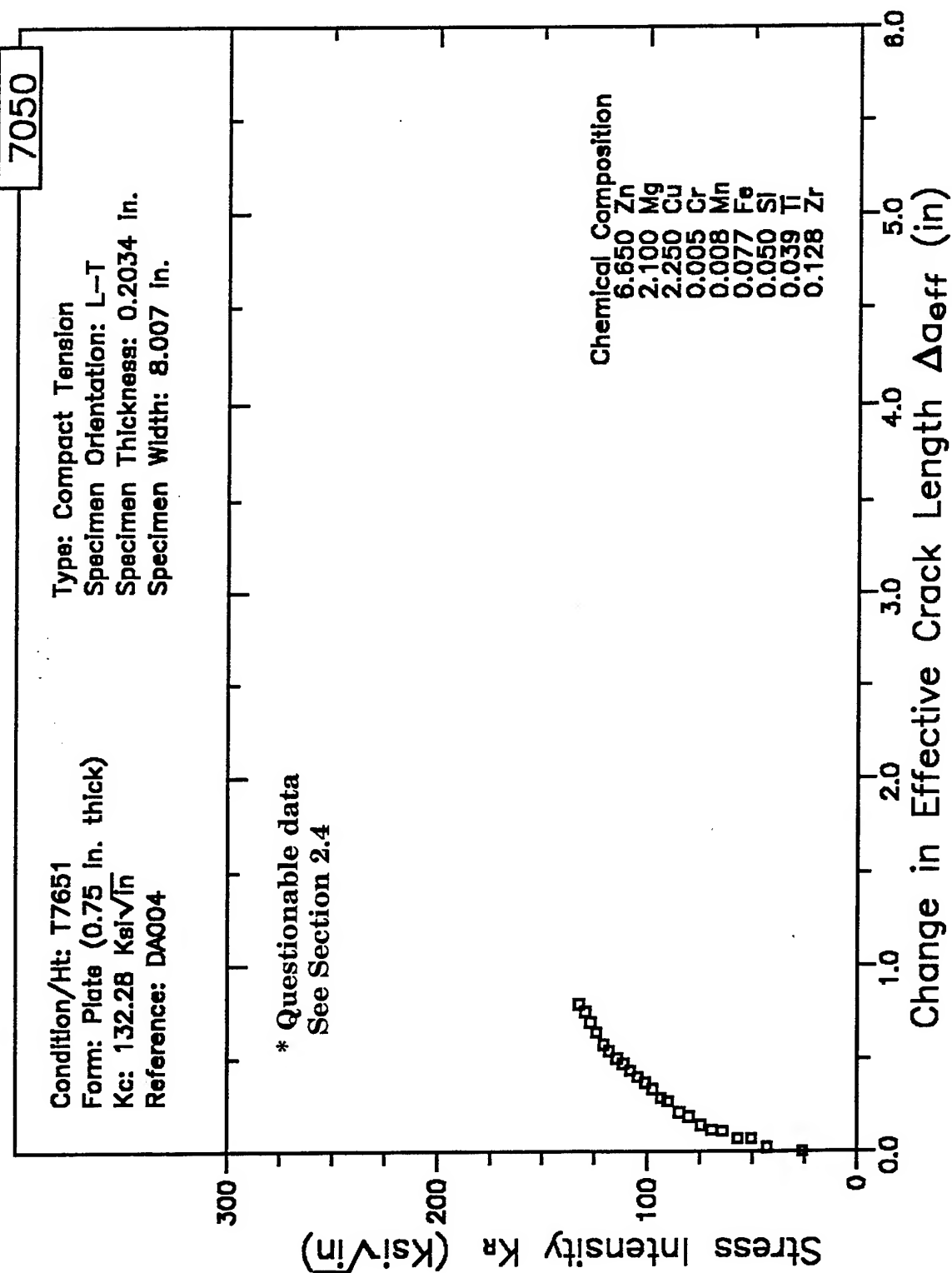


Figure 8.7.2.3.52

RESISTANCE CURVE

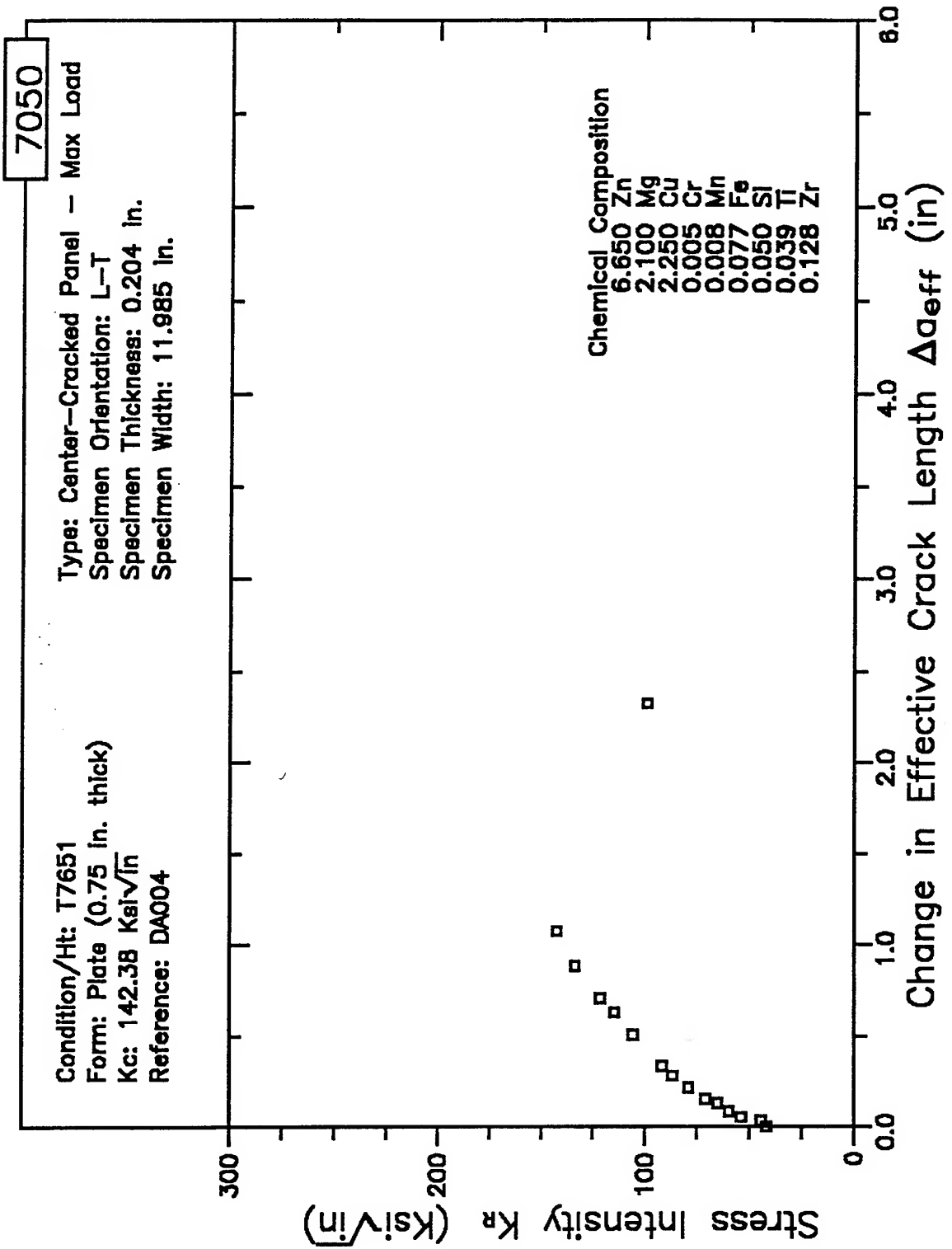


Figure 8.7.2.3.53

RESISTANCE CURVE

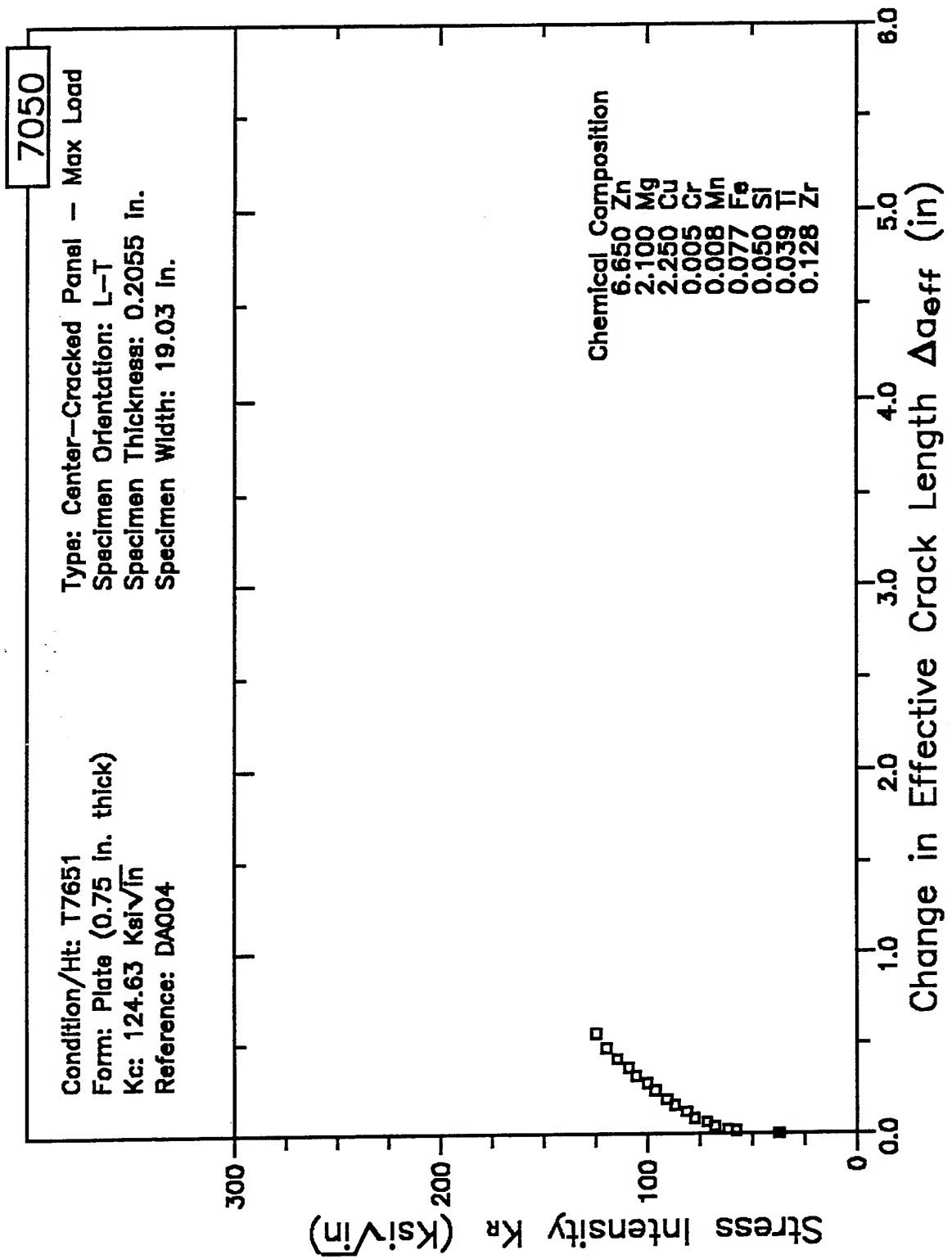


Figure 8.7.2.3.54

RESISTANCE CURVE

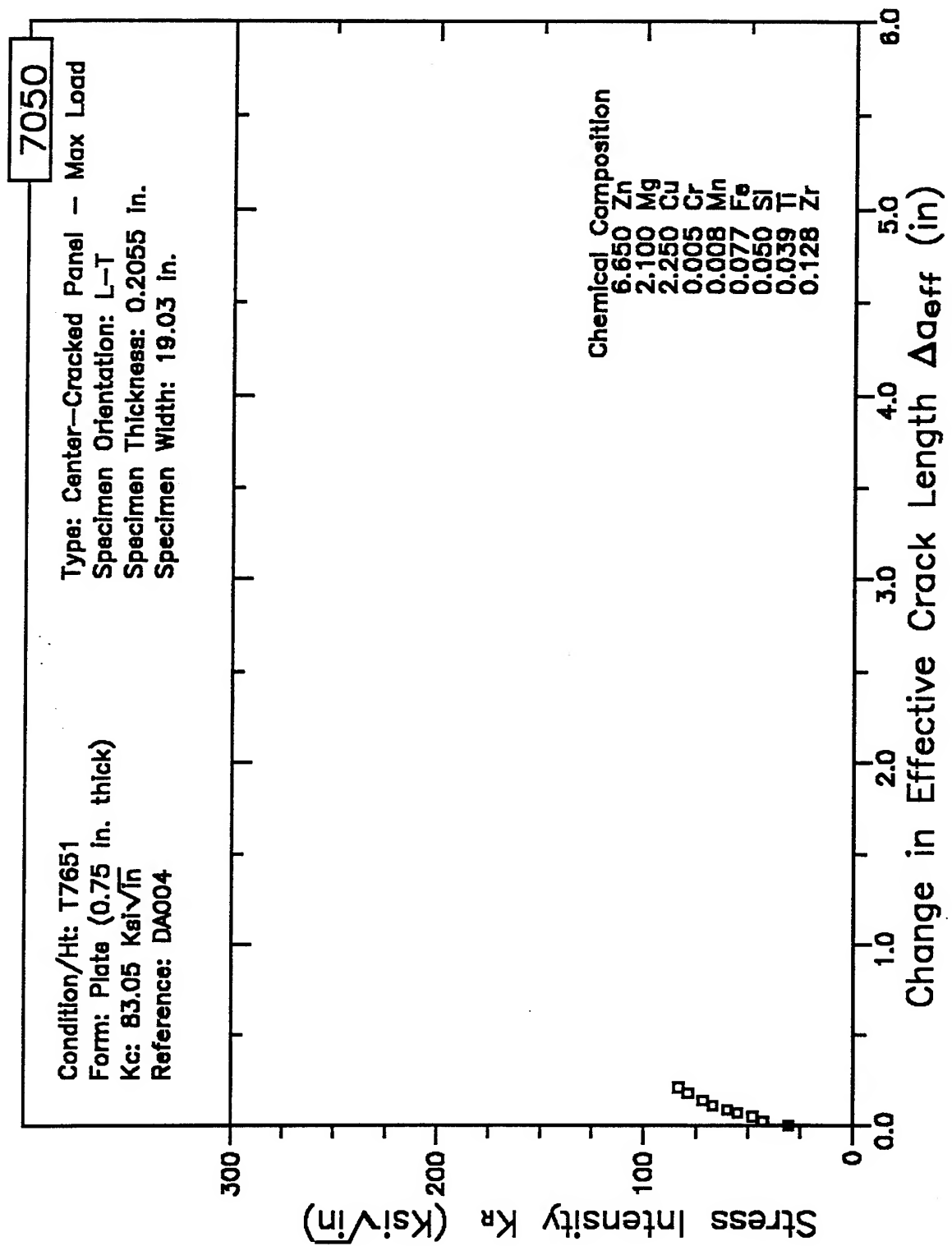


Figure 8.7.2.3.55

RESISTANCE CURVE

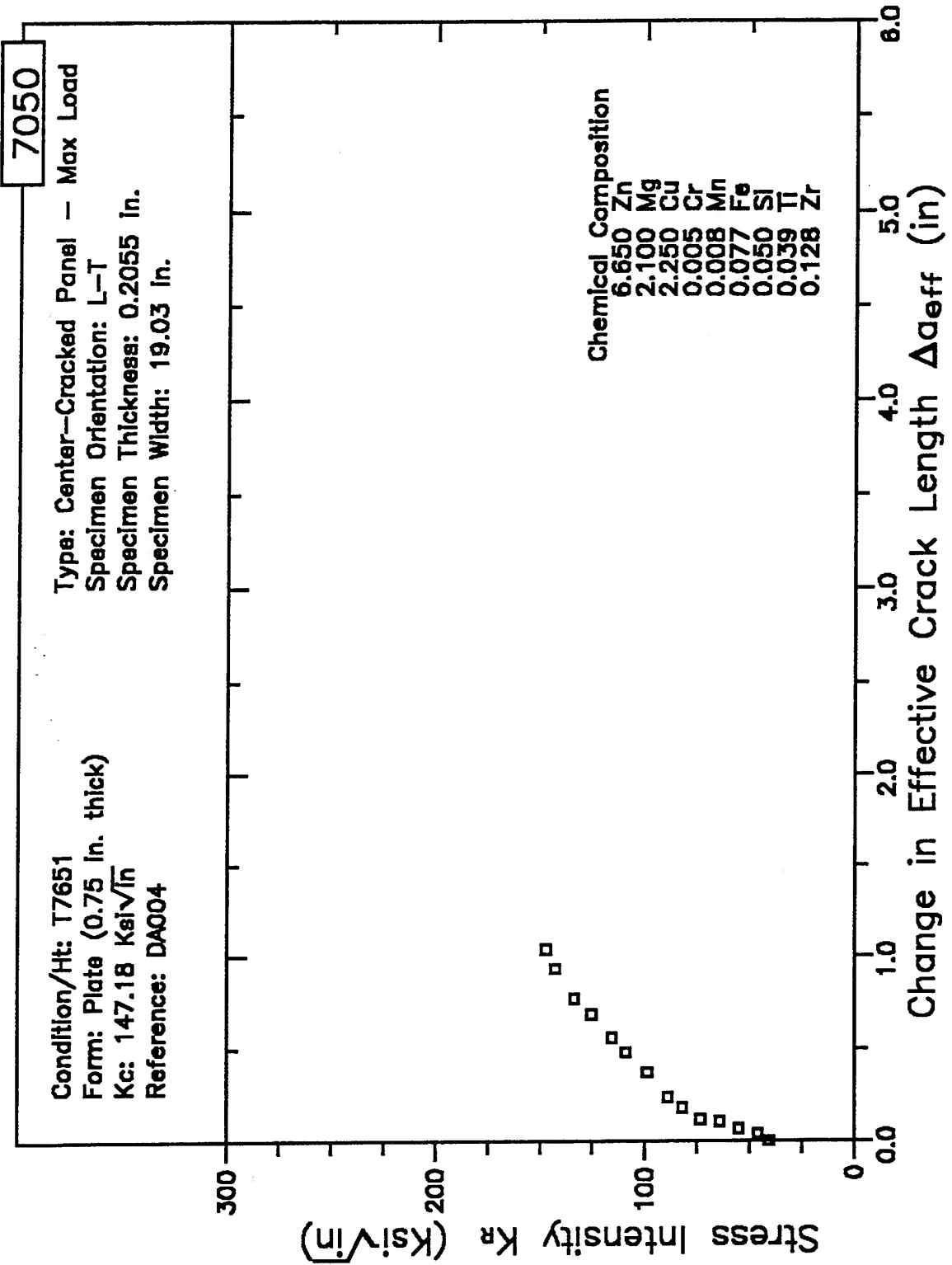


Figure 8.7.2.3.56

RESISTANCE CURVE

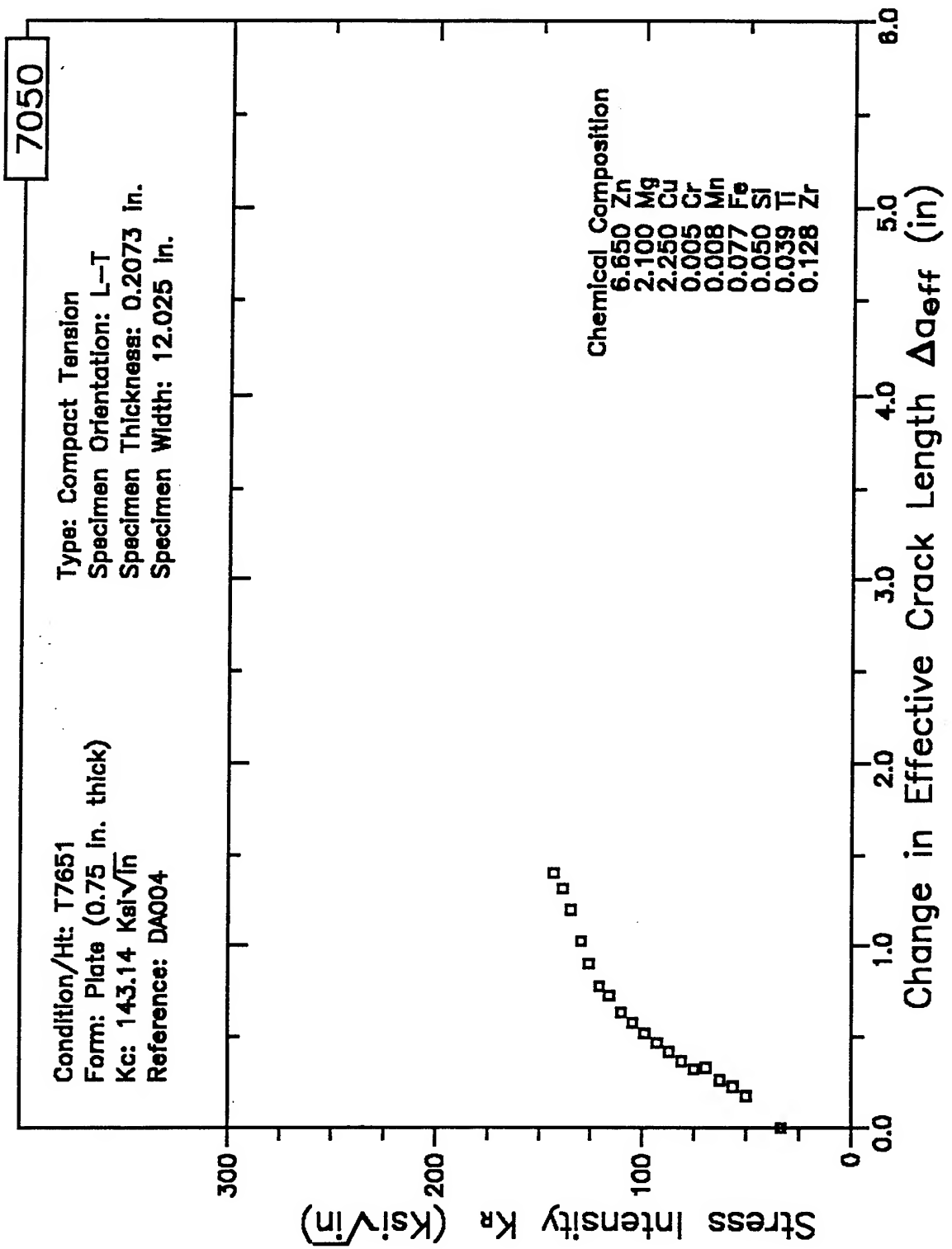


Figure 8.7.2.3.57

RESISTANCE CURVE

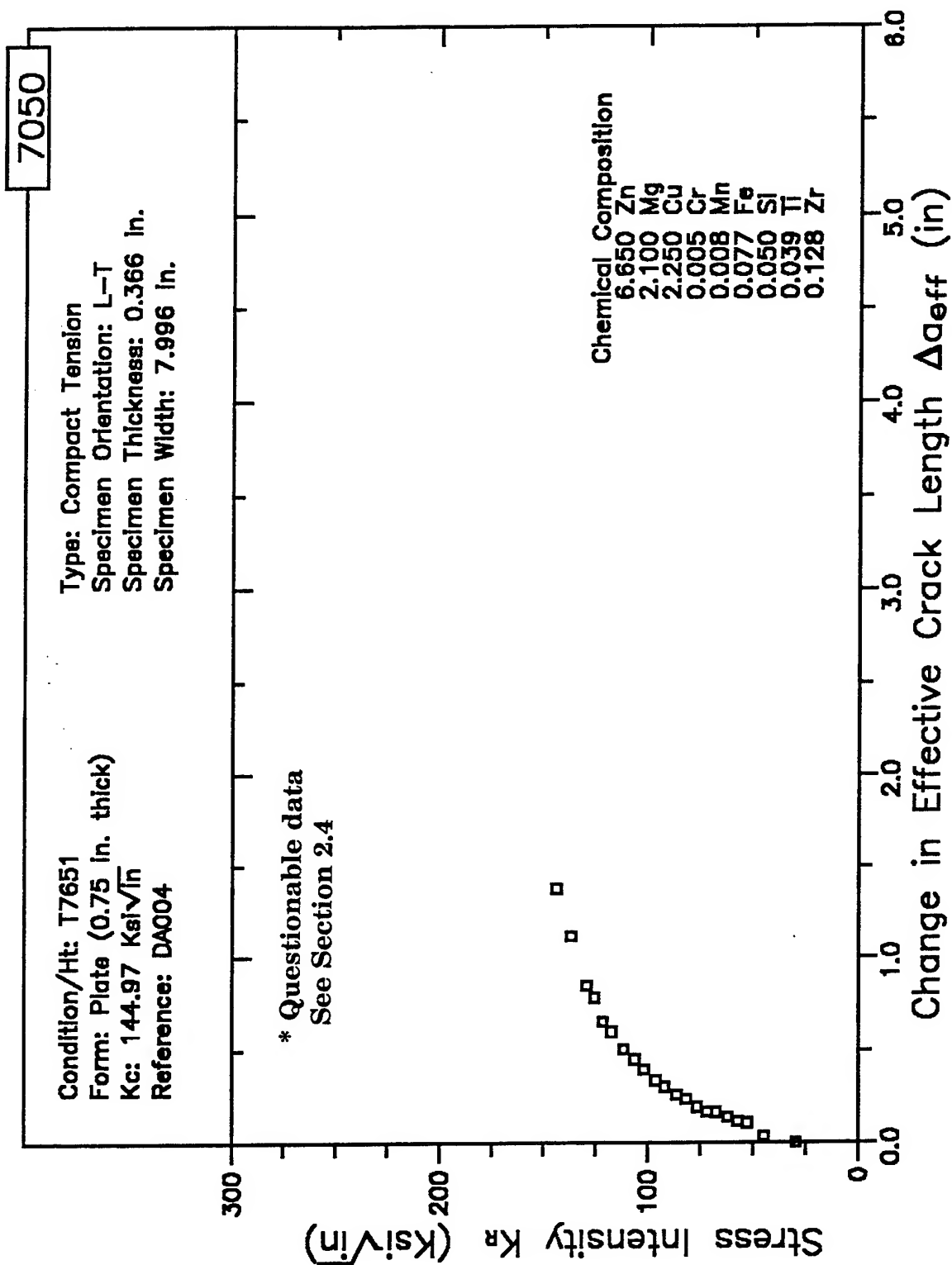


Figure 8.7.2.3.58

RESISTANCE CURVE

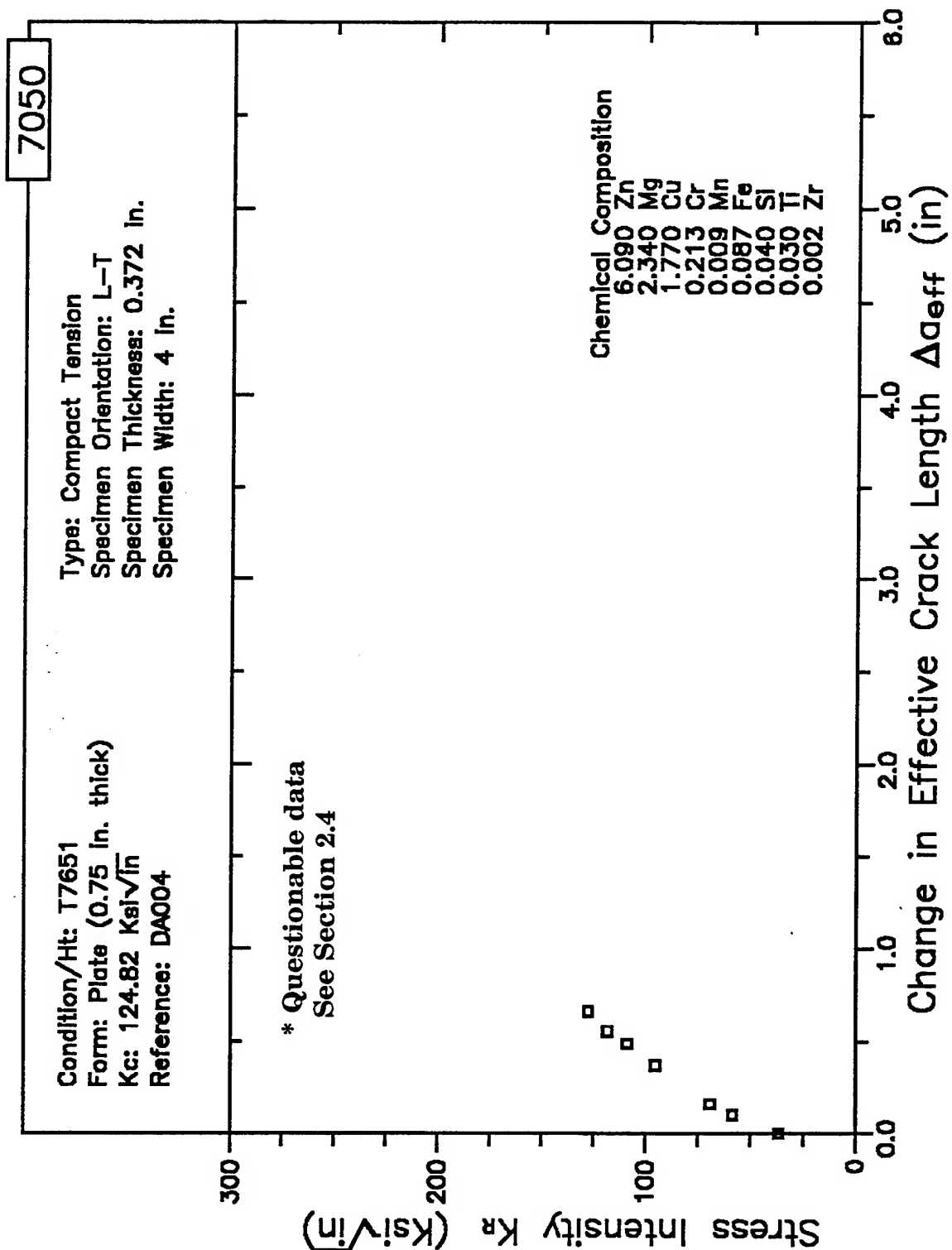


Figure 8.7.2.3.59

RESISTANCE CURVE

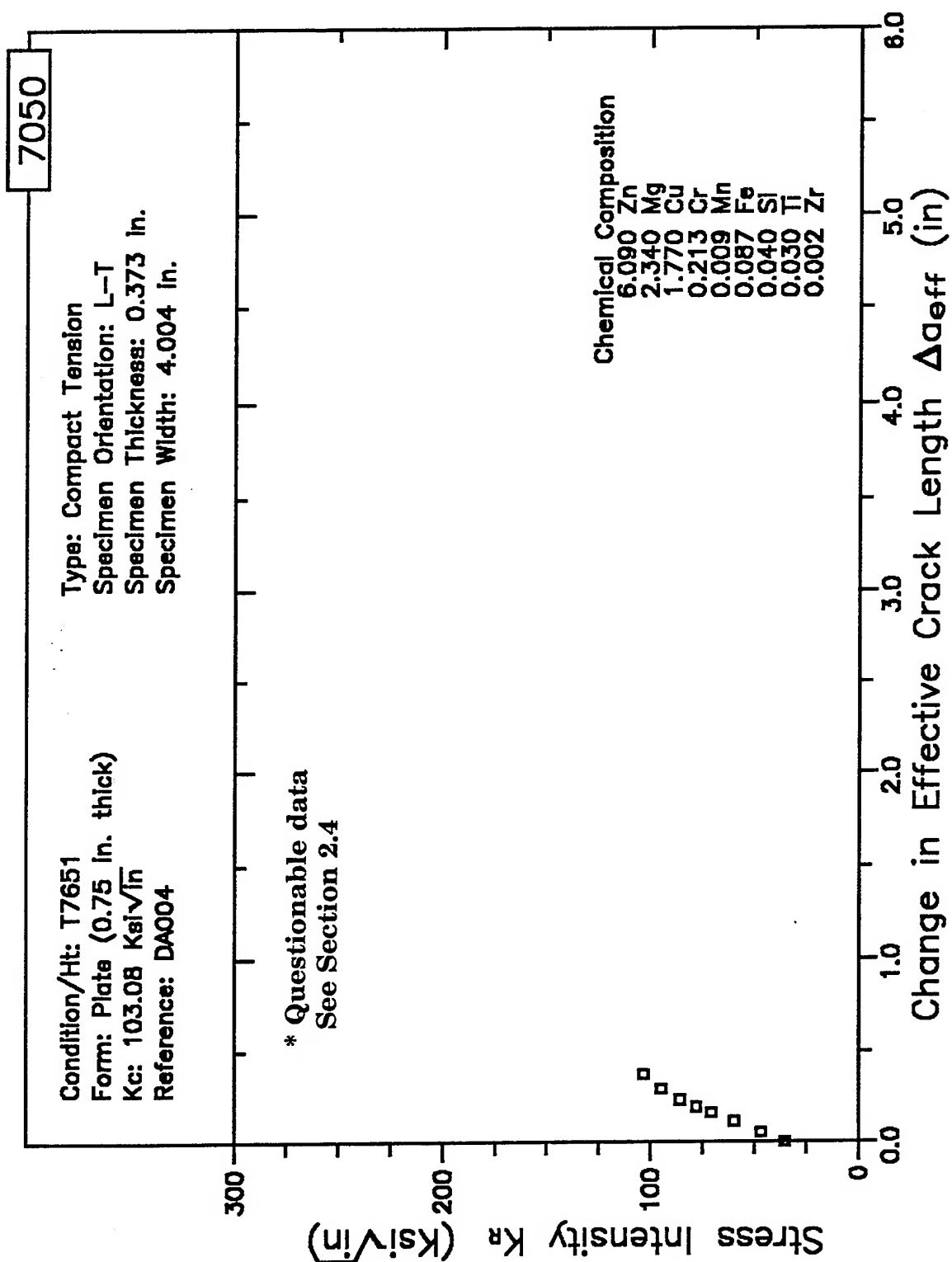


Figure 8.7.2.3.60

RESISTANCE CURVE

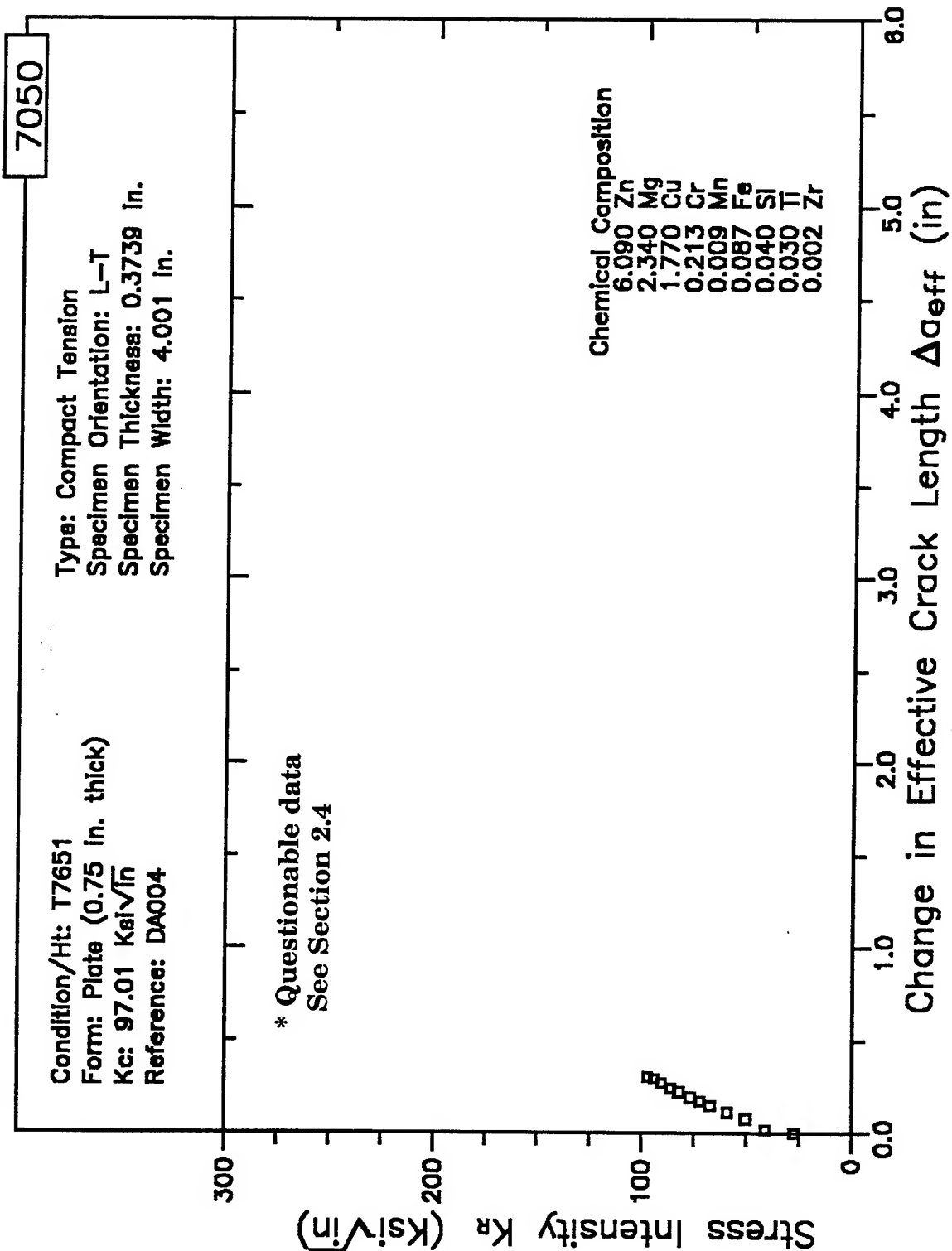


Figure 8.7.2.3.61

RESISTANCE CURVE

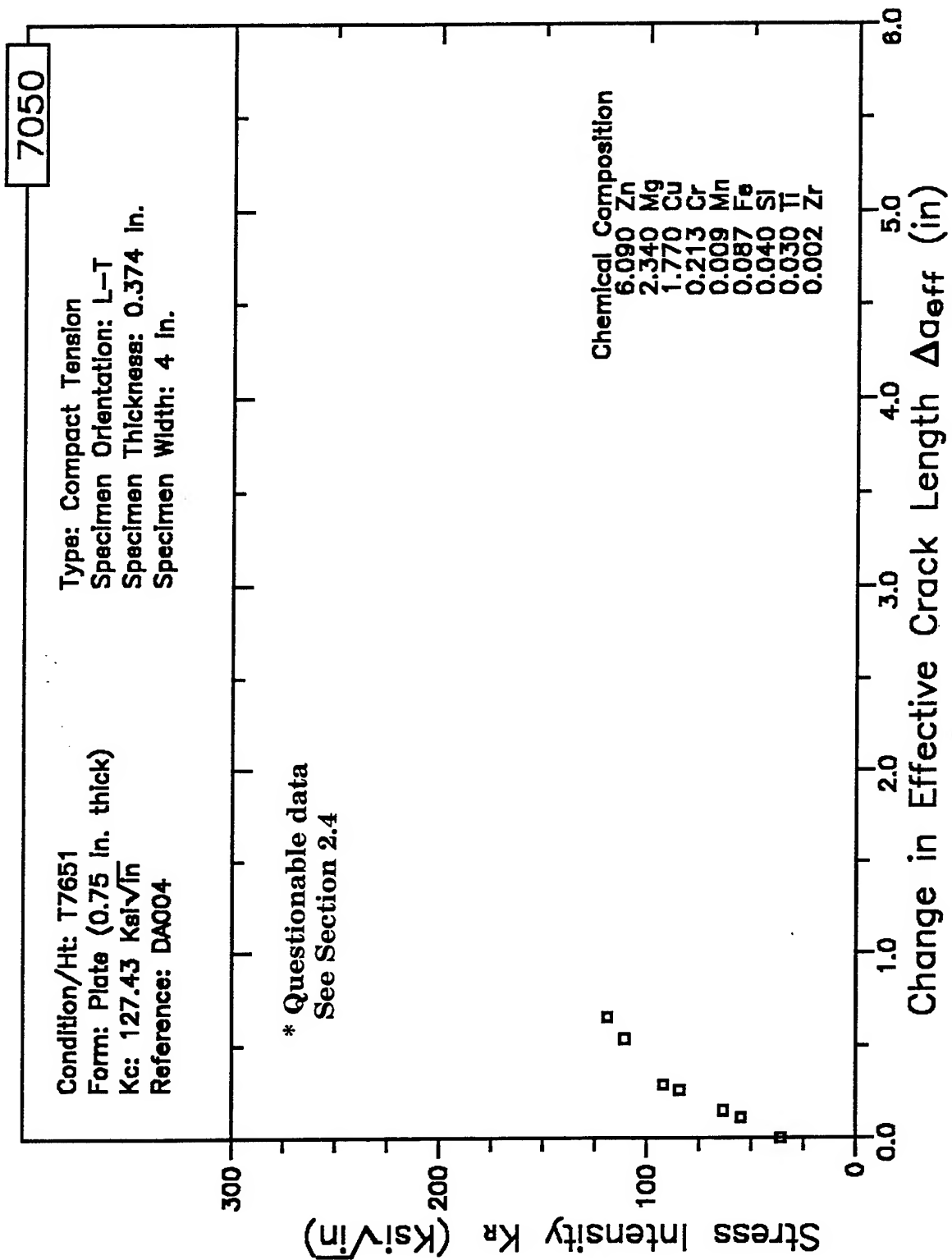


Figure 8.7.2.3.62

RESISTANCE CURVE

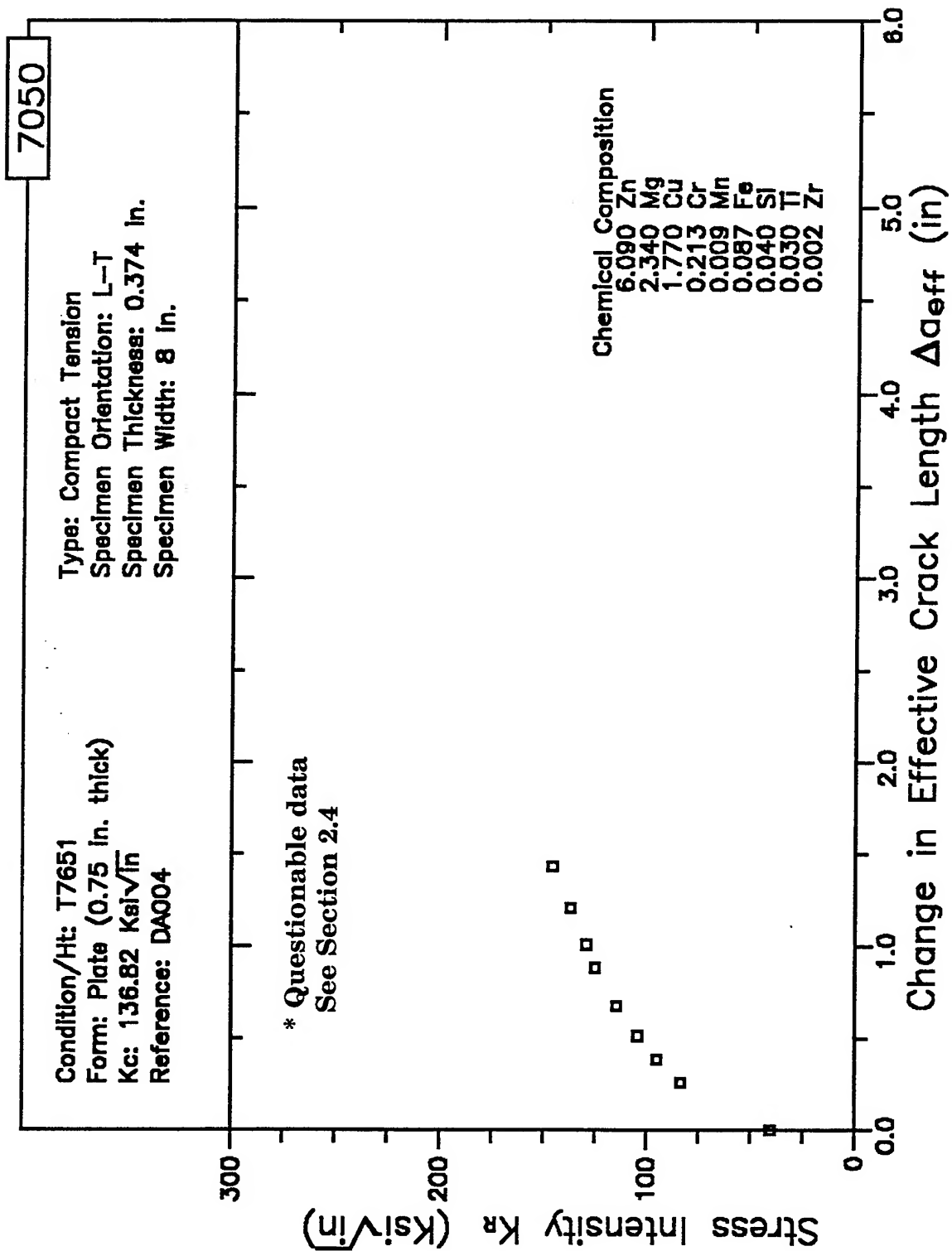


Figure 8.7.2.3.63

RESISTANCE CURVE

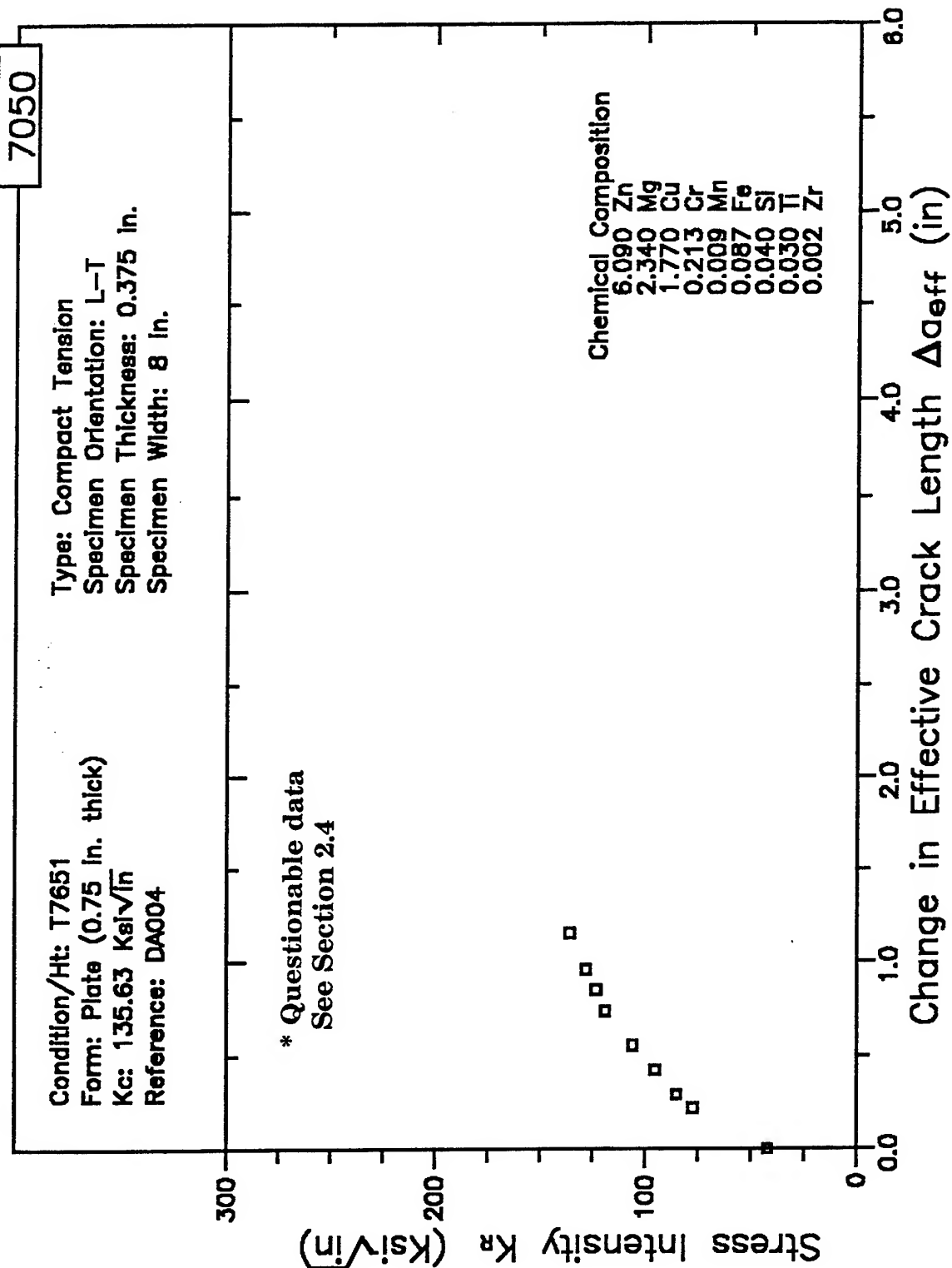


Figure 8.7.2.3.64

RESISTANCE CURVE

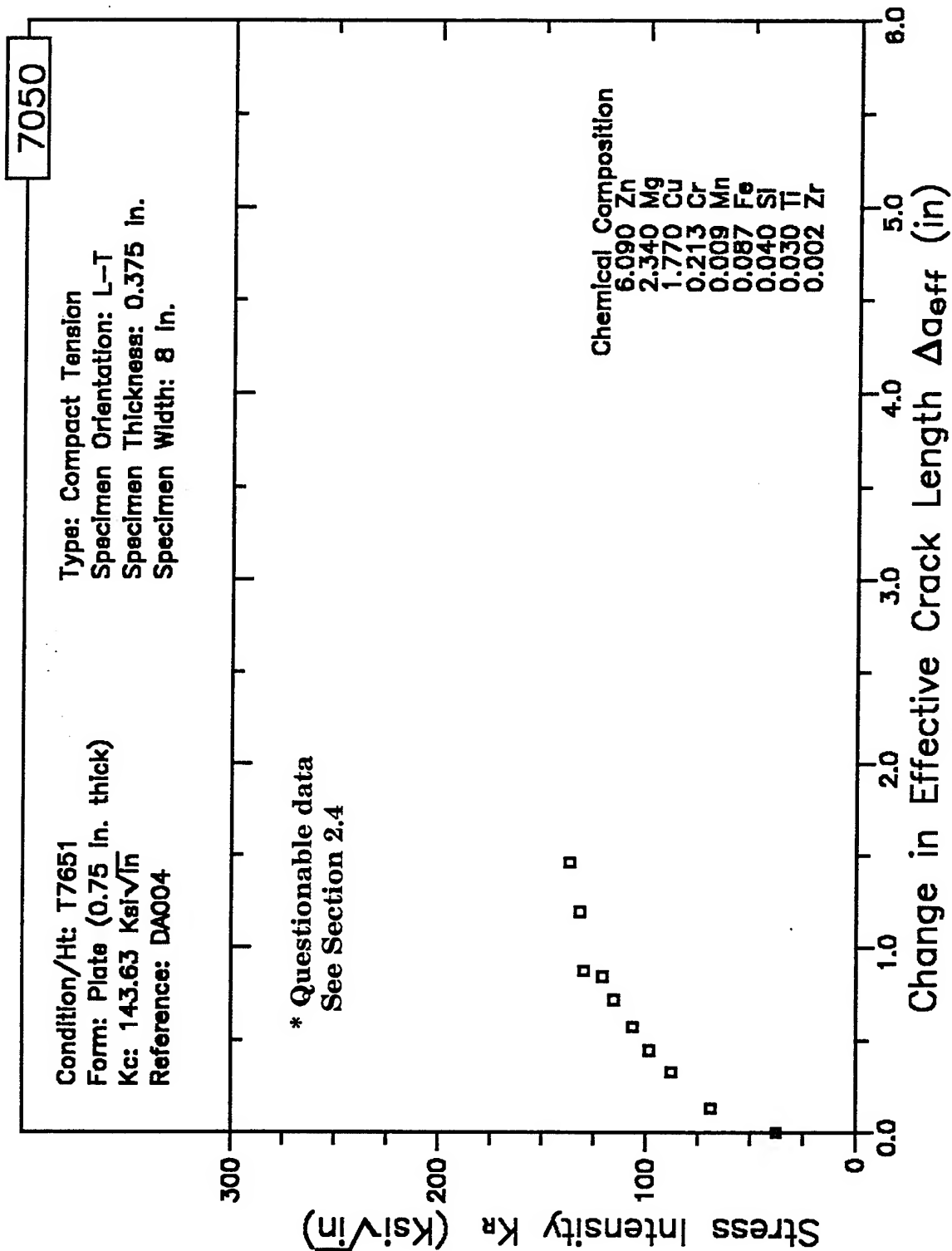


Figure 8.7.2.3.65

RESISTANCE CURVE

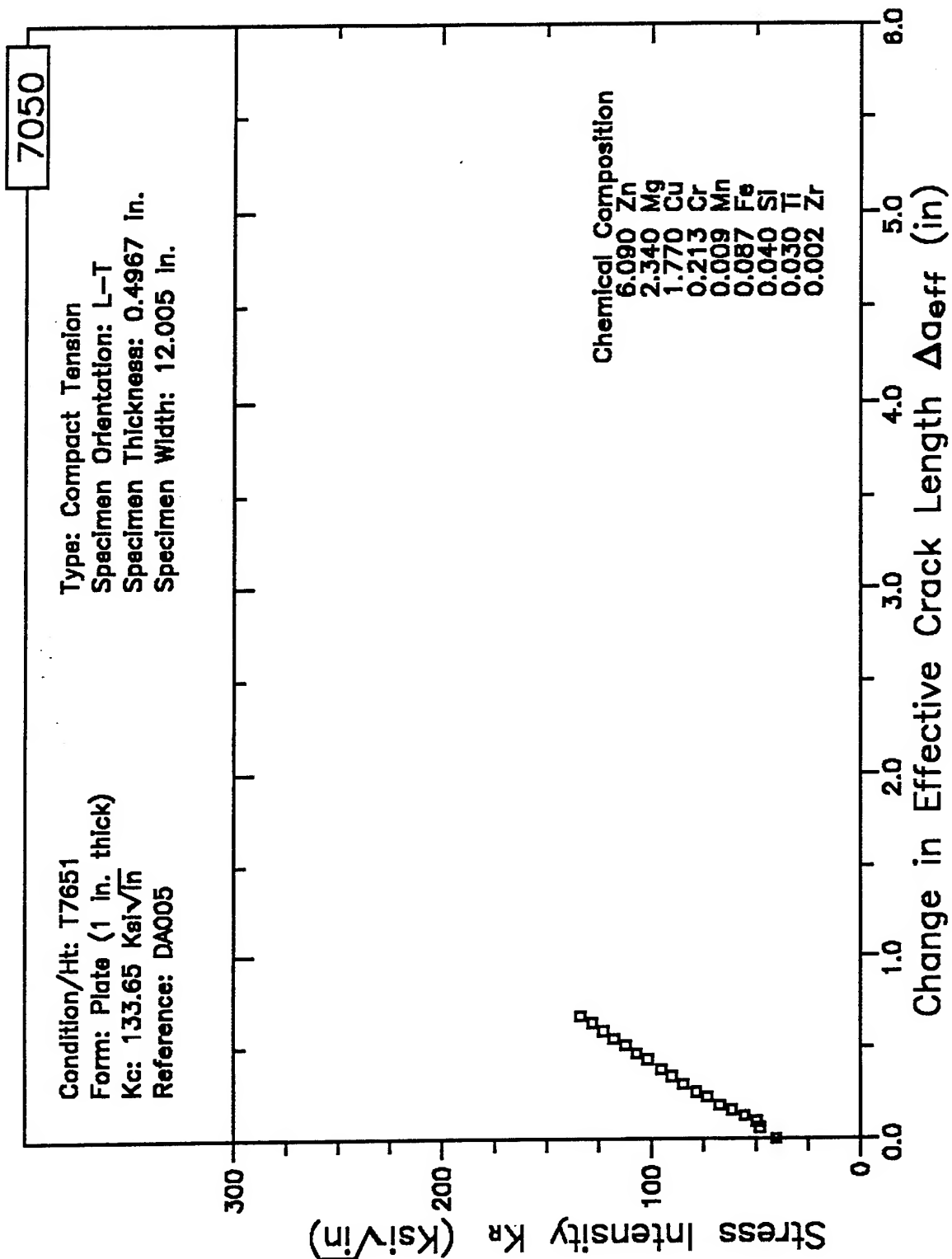


Figure 8.7.2.3.66

RESISTANCE CURVE

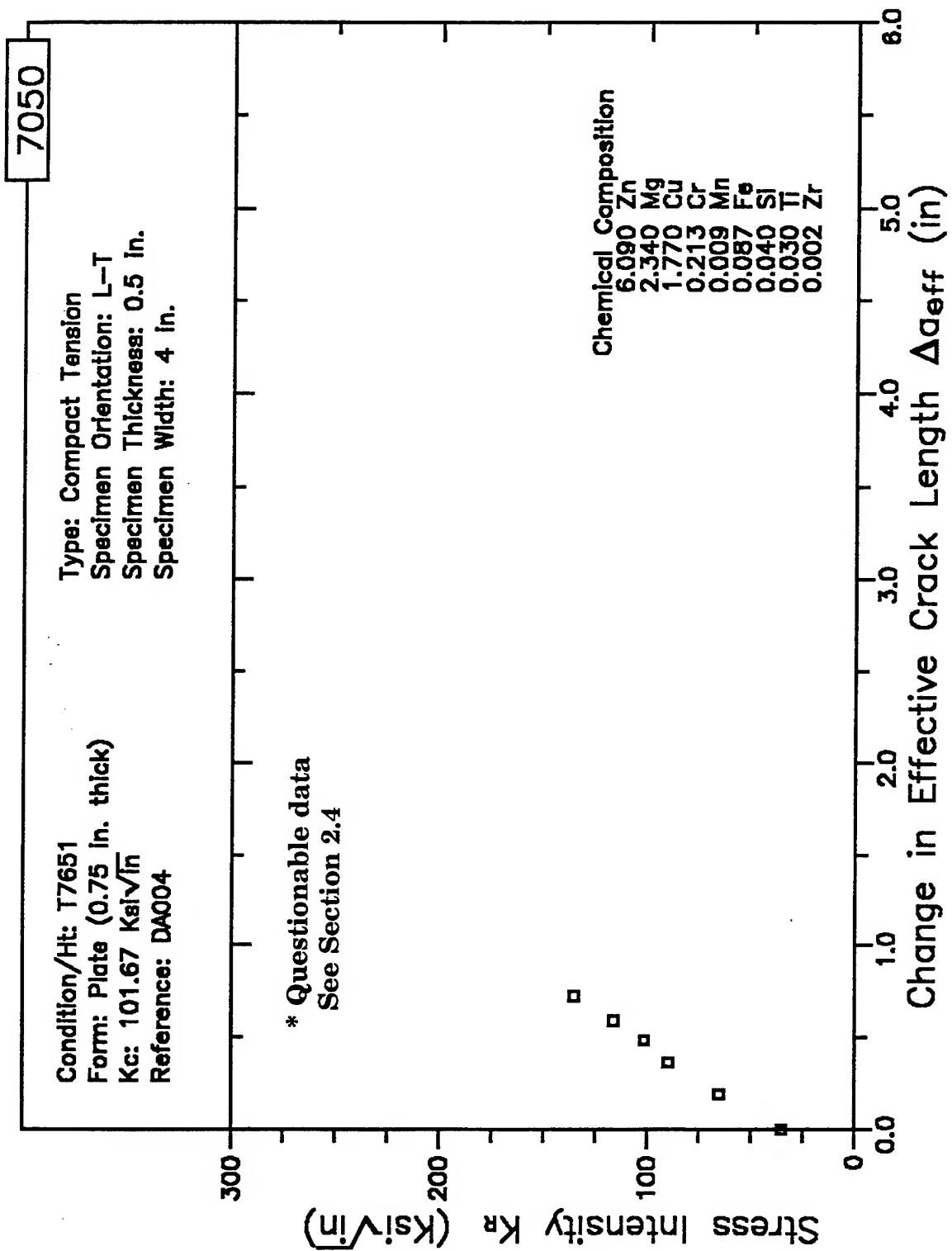


Figure 8.7.2.3.67

RESISTANCE CURVE

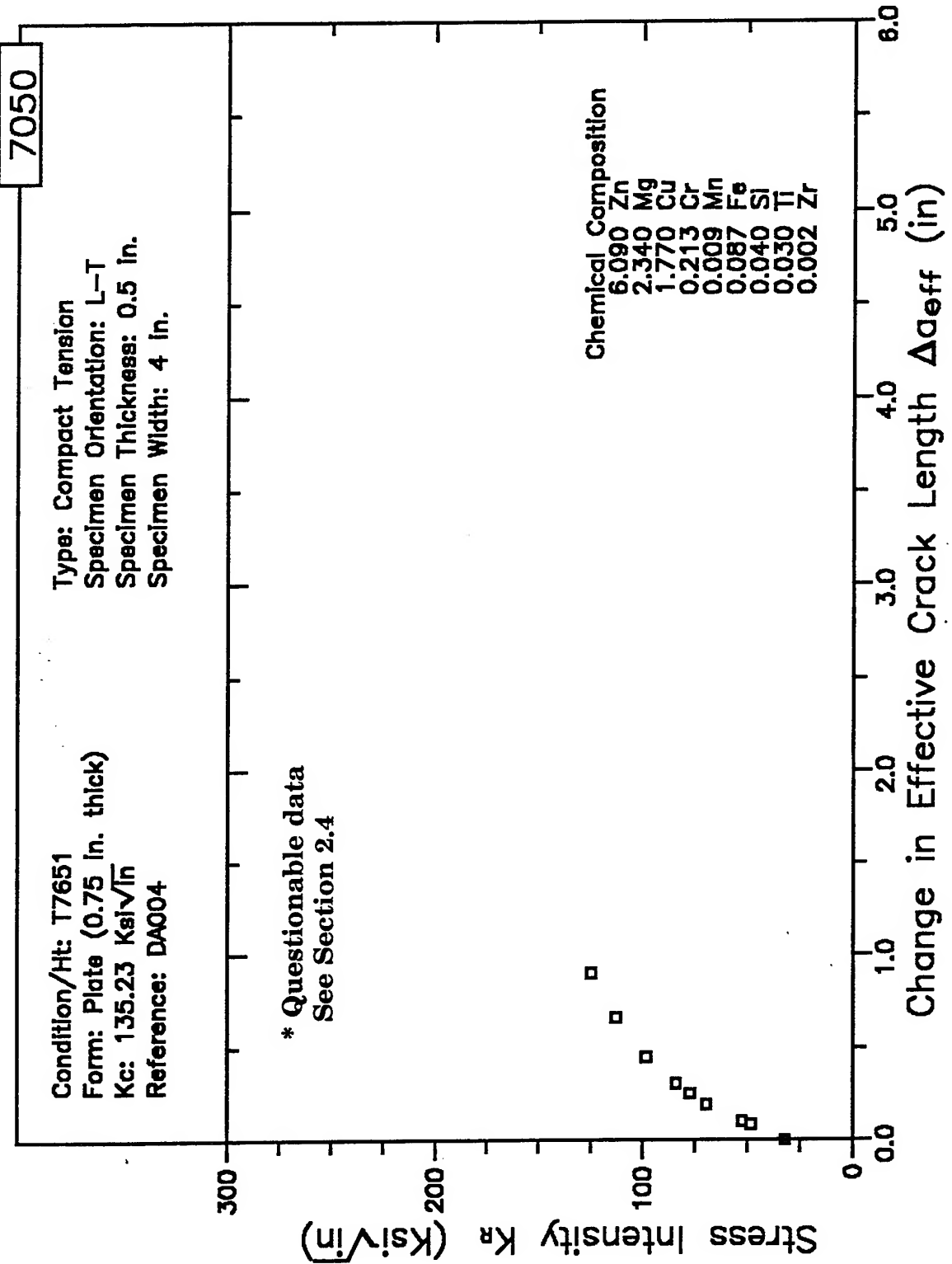


Figure 8.7.2.3.68

RESISTANCE CURVE

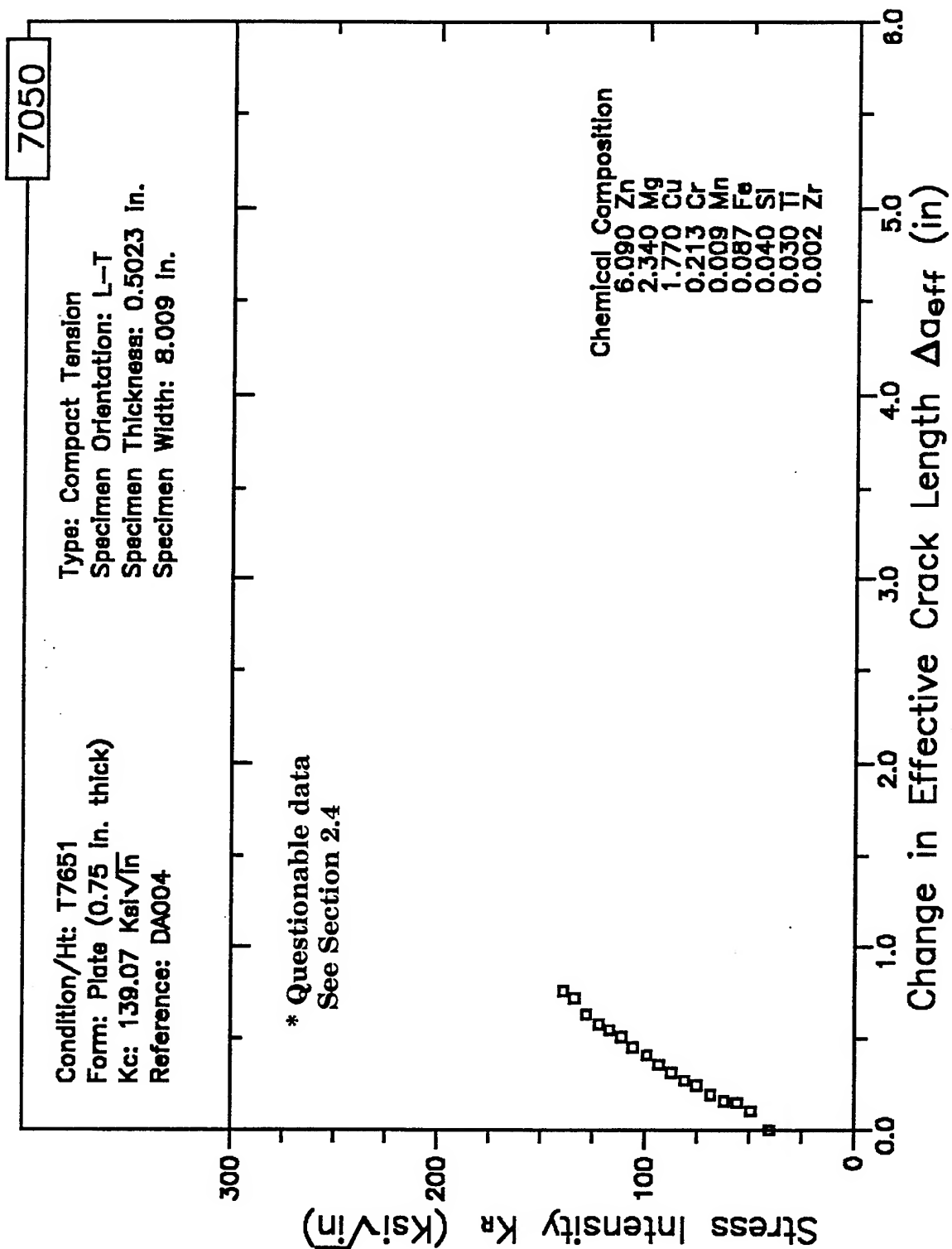


Figure 8.7.2.3.69

RESISTANCE CURVE

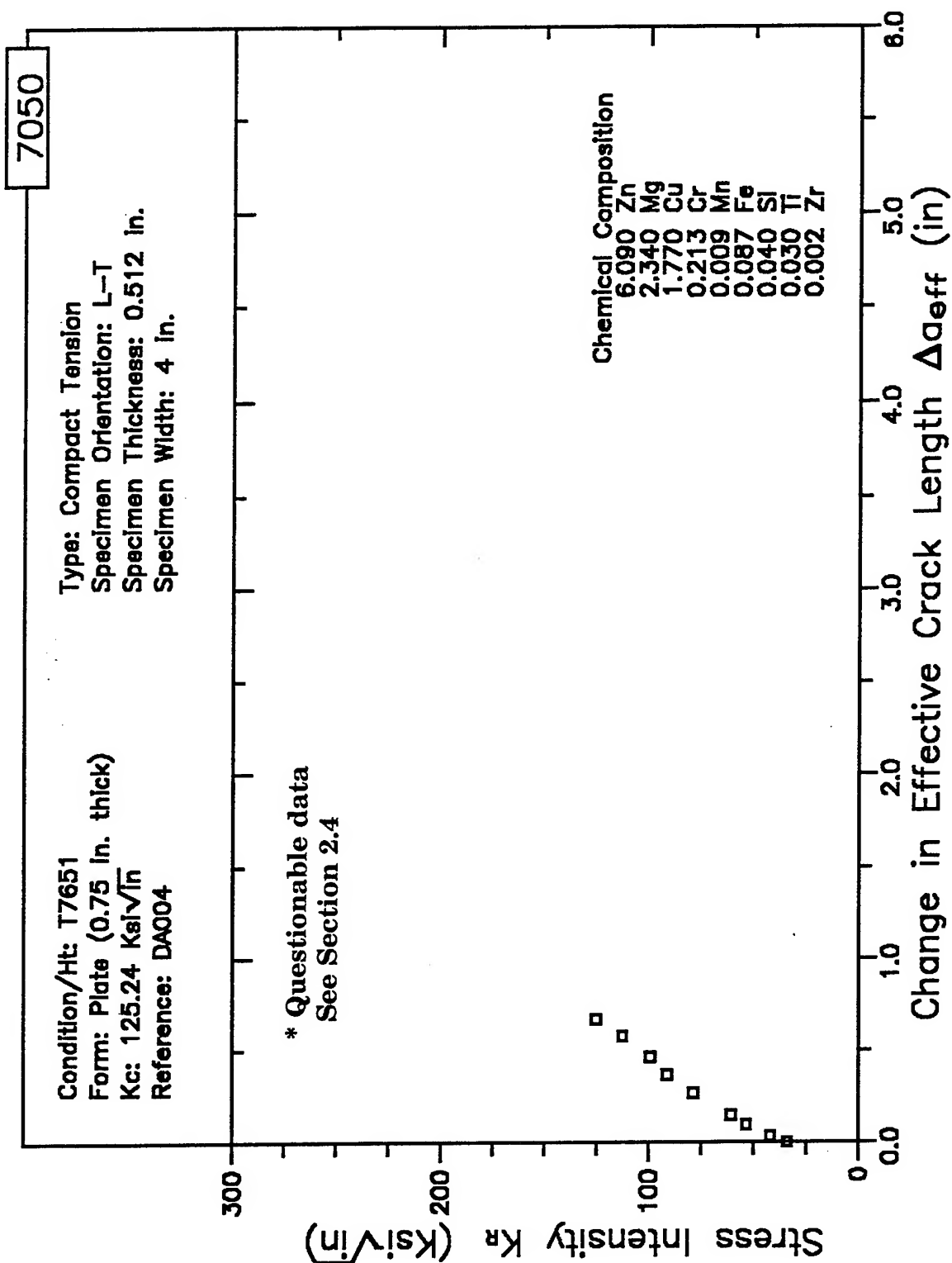


Figure 8.7.2.3.70

RESISTANCE CURVE

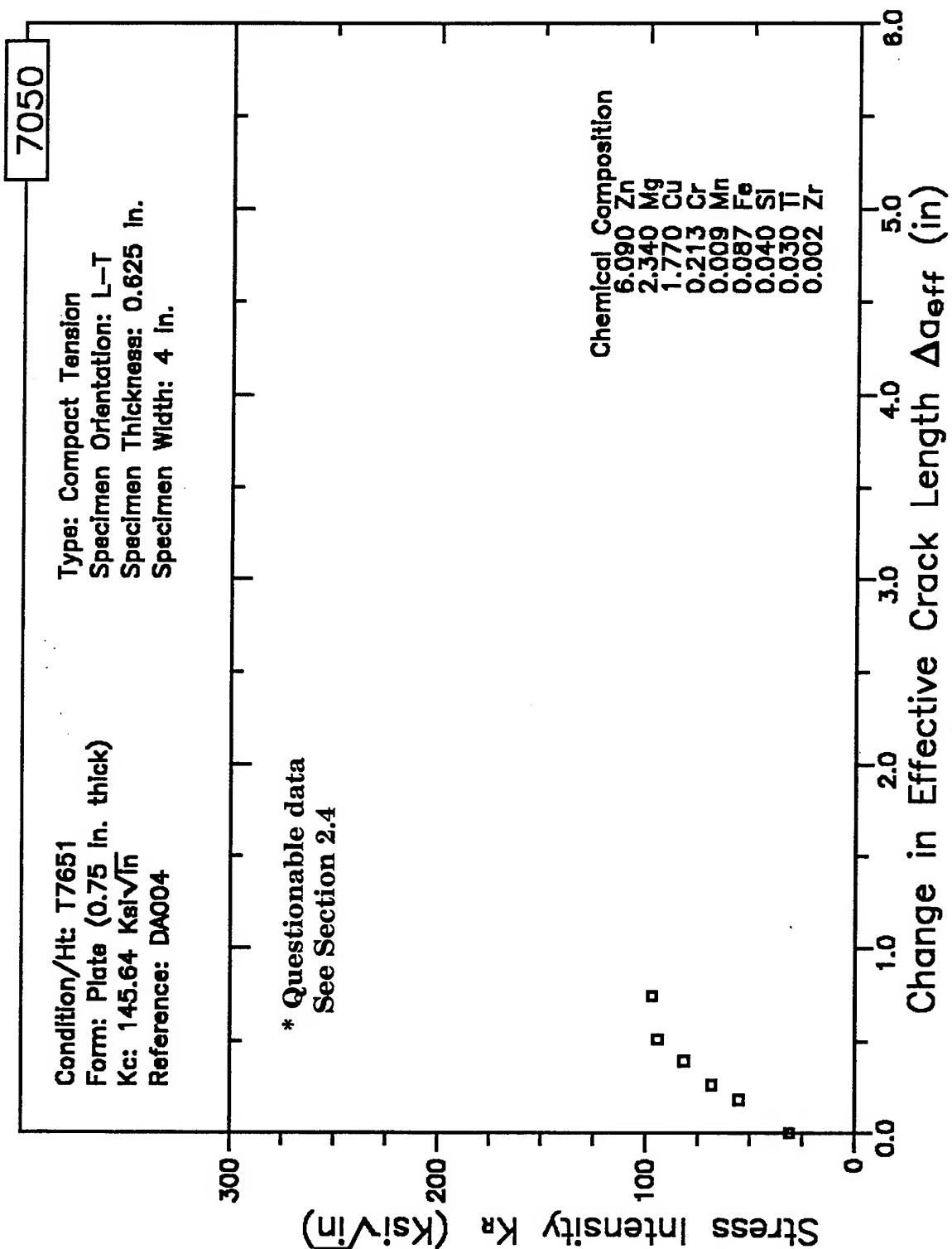


Figure 8.7.2.3.71

RESISTANCE CURVE

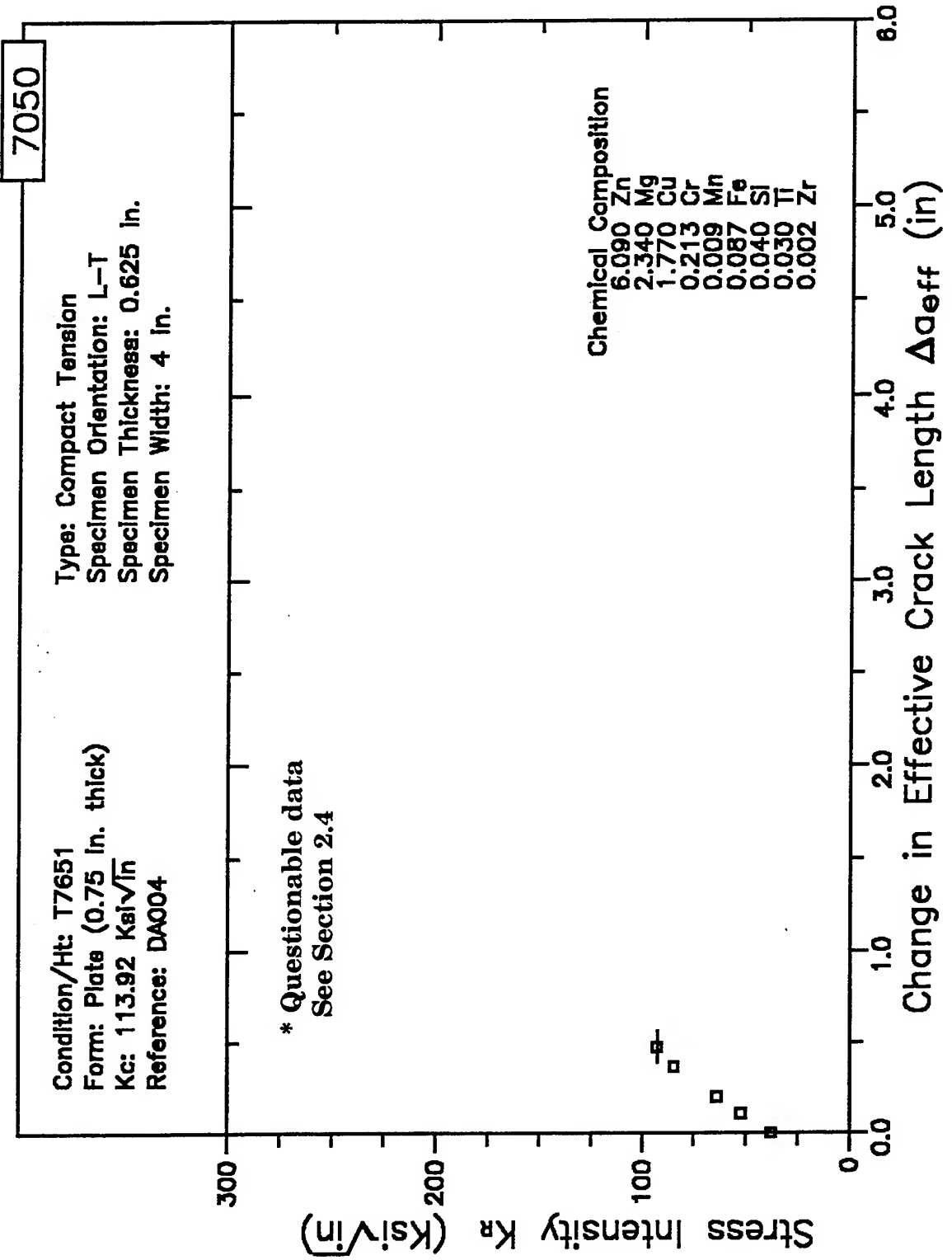


Figure 8.7.2.3.72

RESISTANCE CURVE

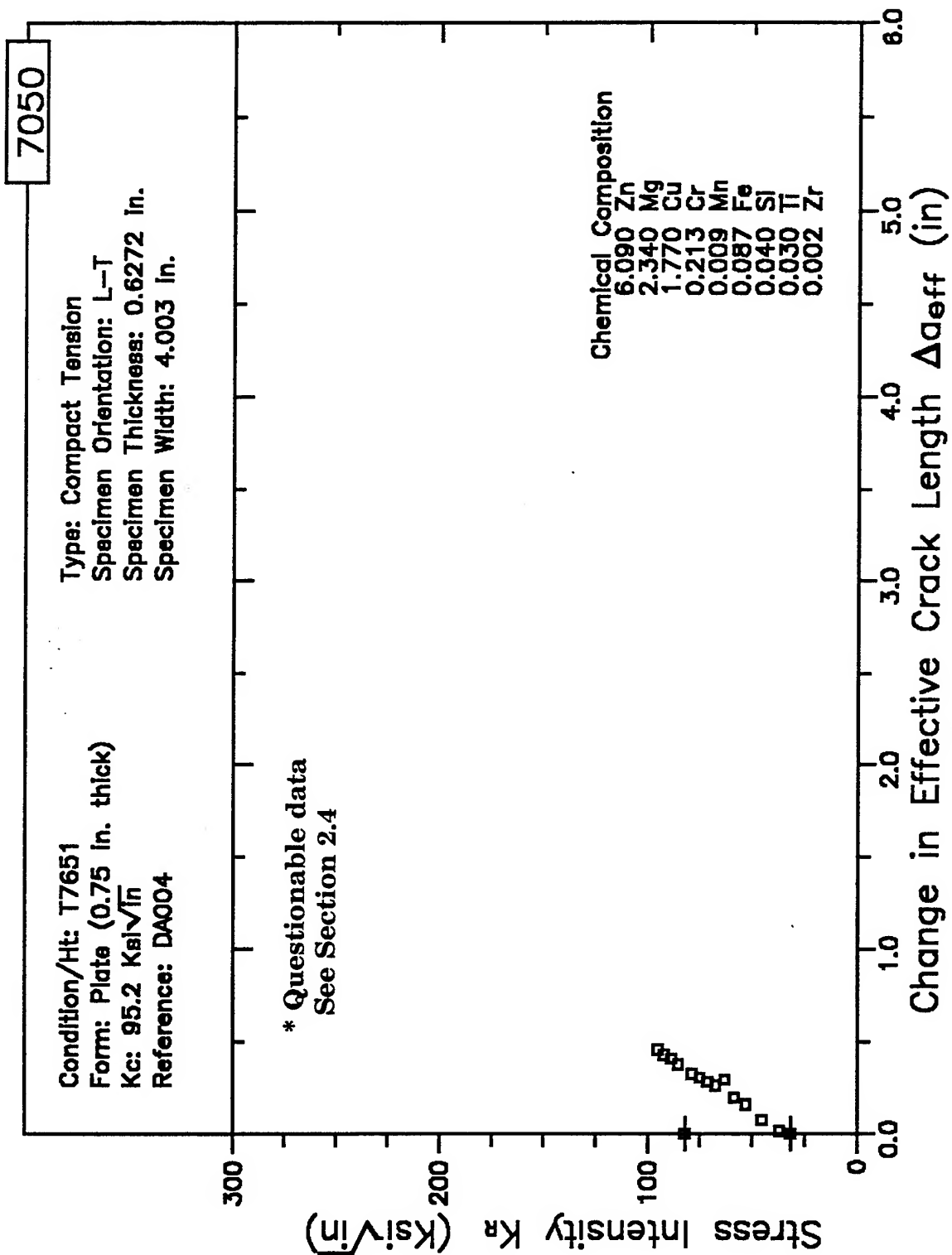


Figure 8.7.2.3.73

RESISTANCE CURVE

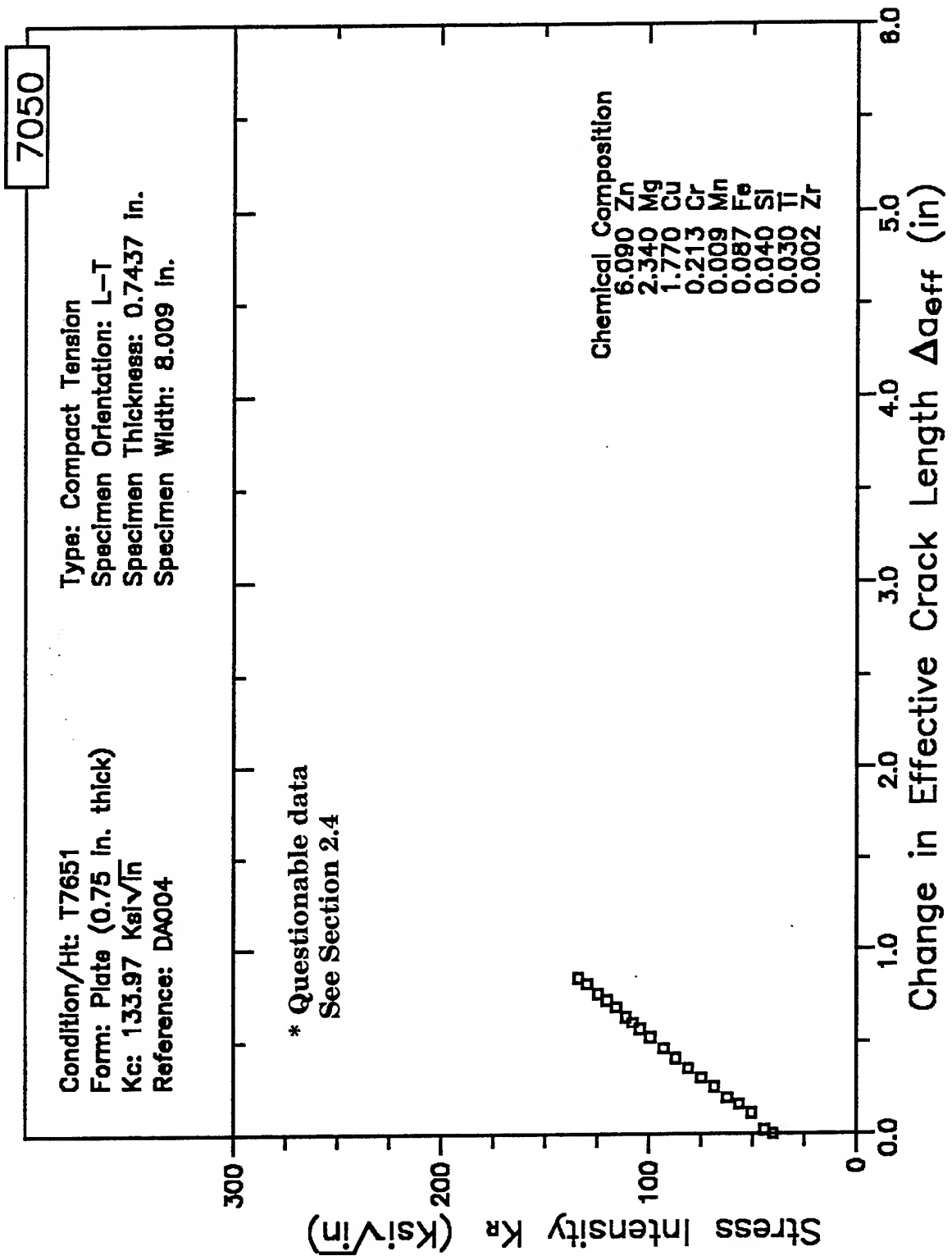


Figure 8.7.2.3.74

RESISTANCE CURVE

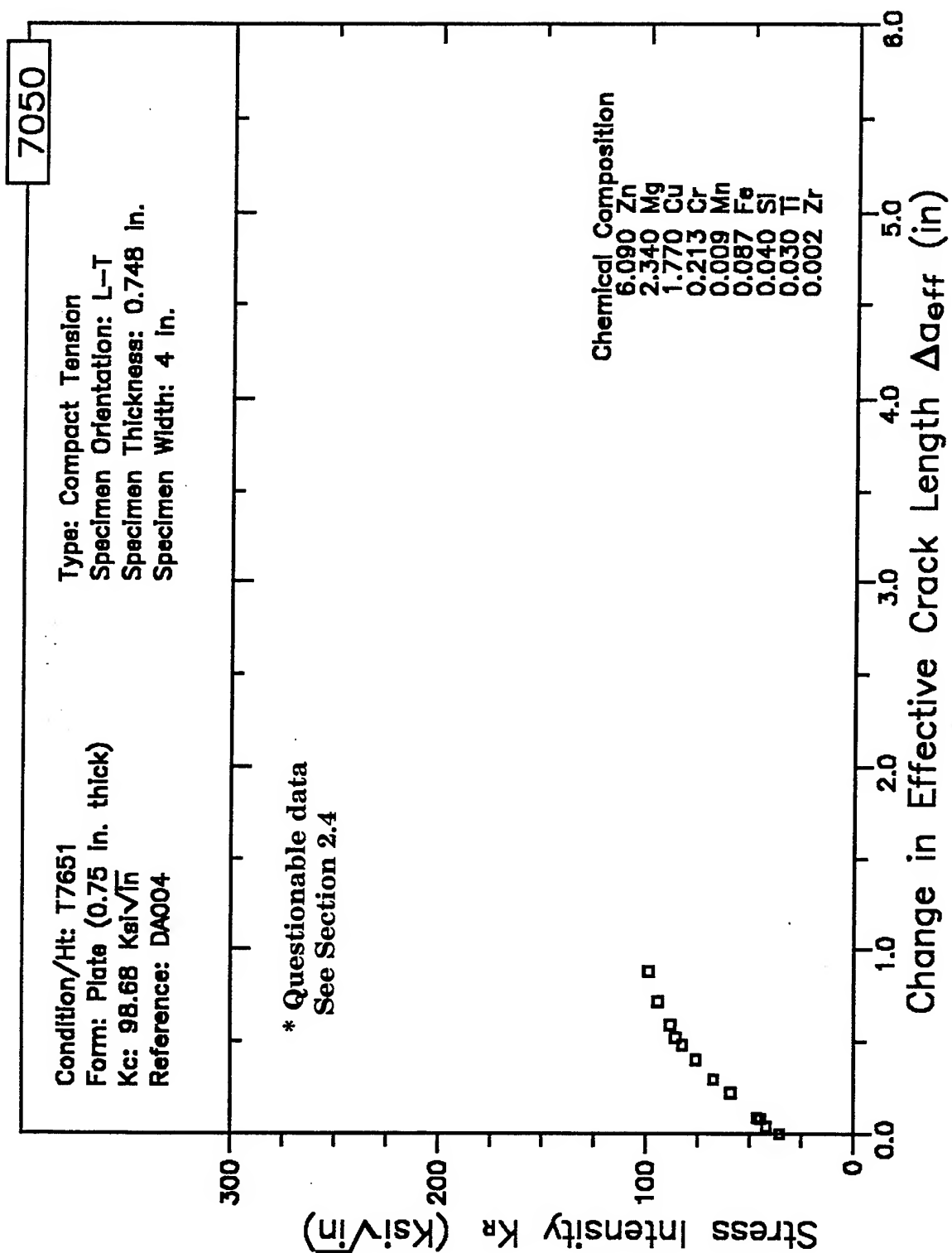


Figure 8.7.2.3.75

RESISTANCE CURVE

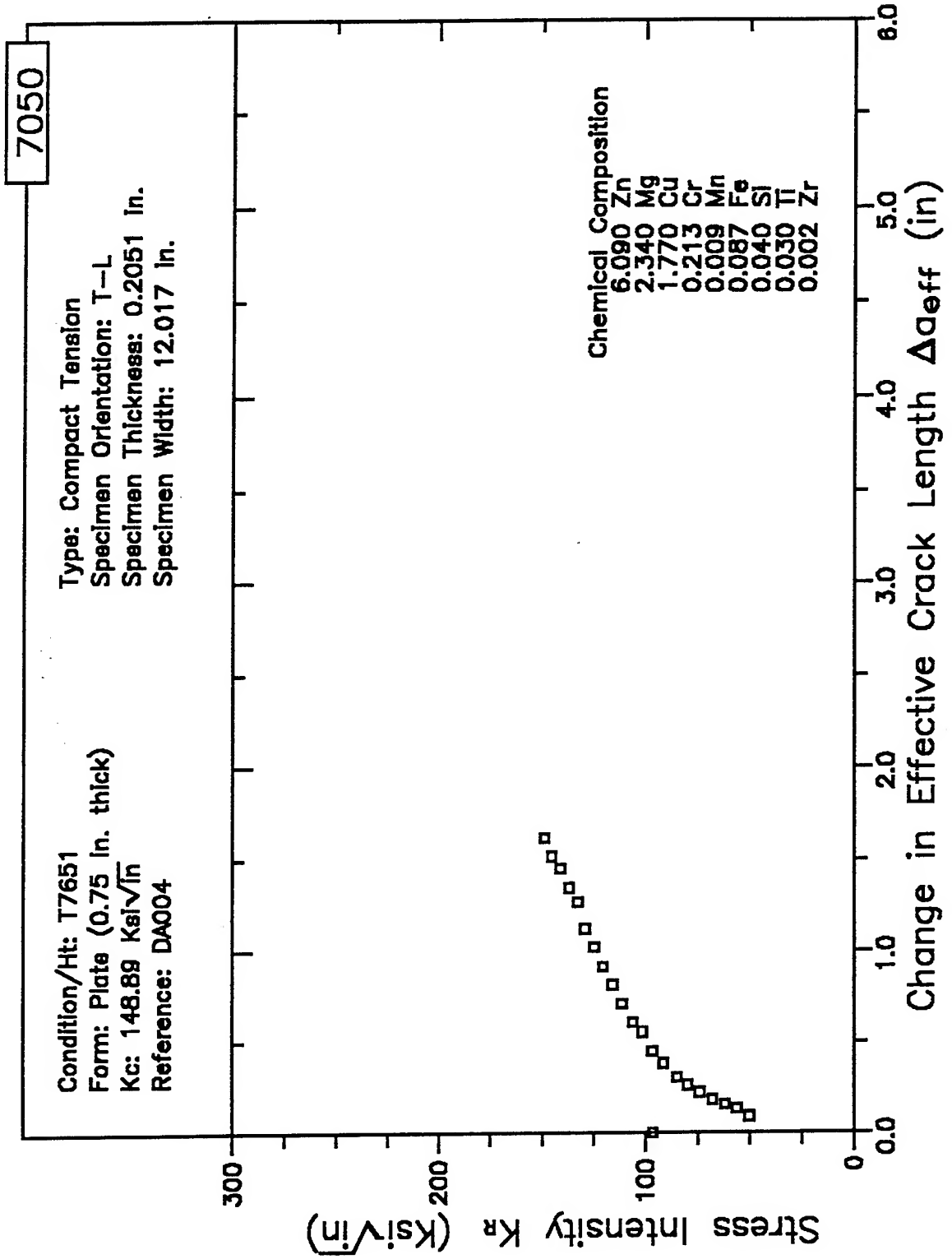


Figure 8.7.2.3.76

RESISTANCE CURVE

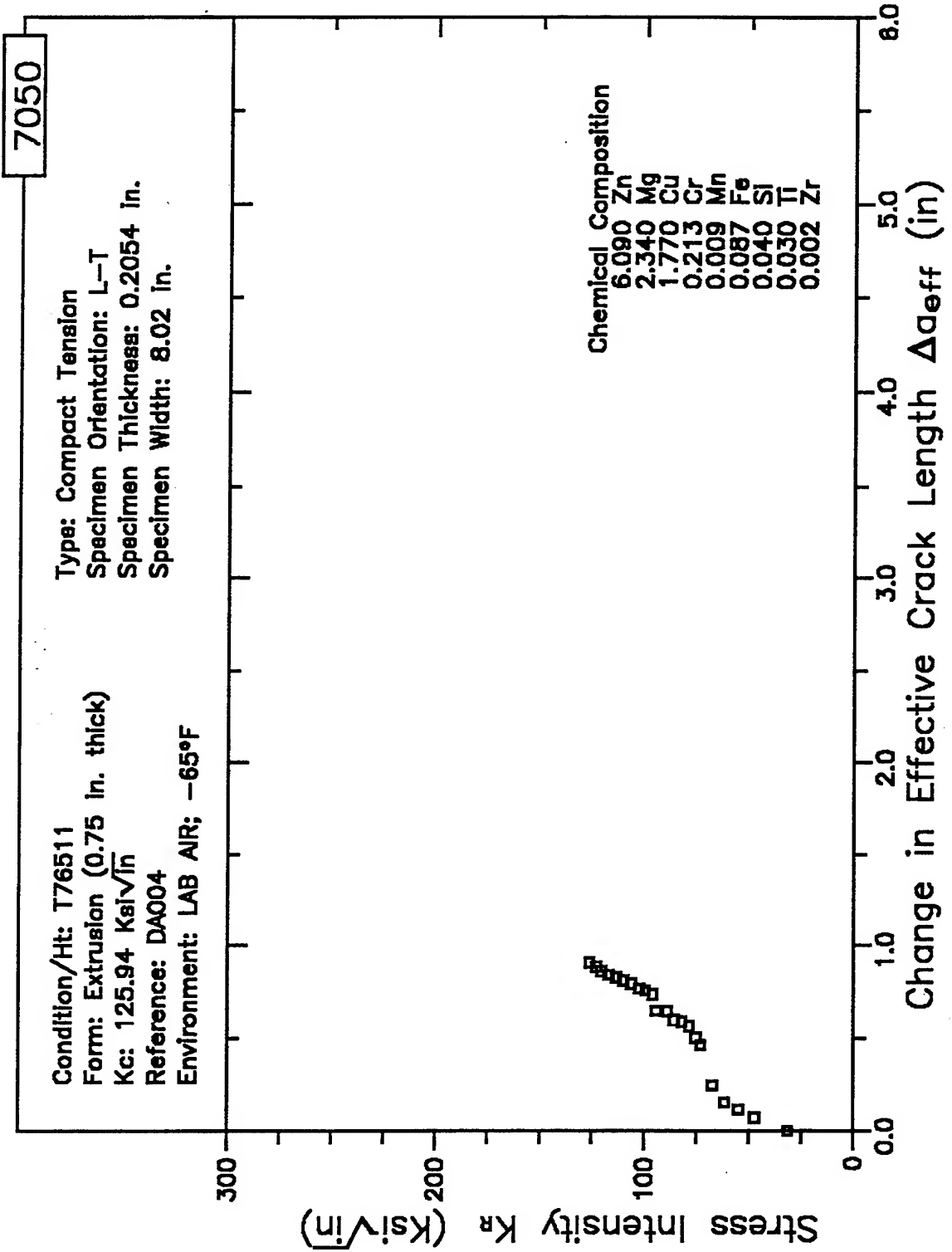


Figure 8.7.2.3.77

RESISTANCE CURVE

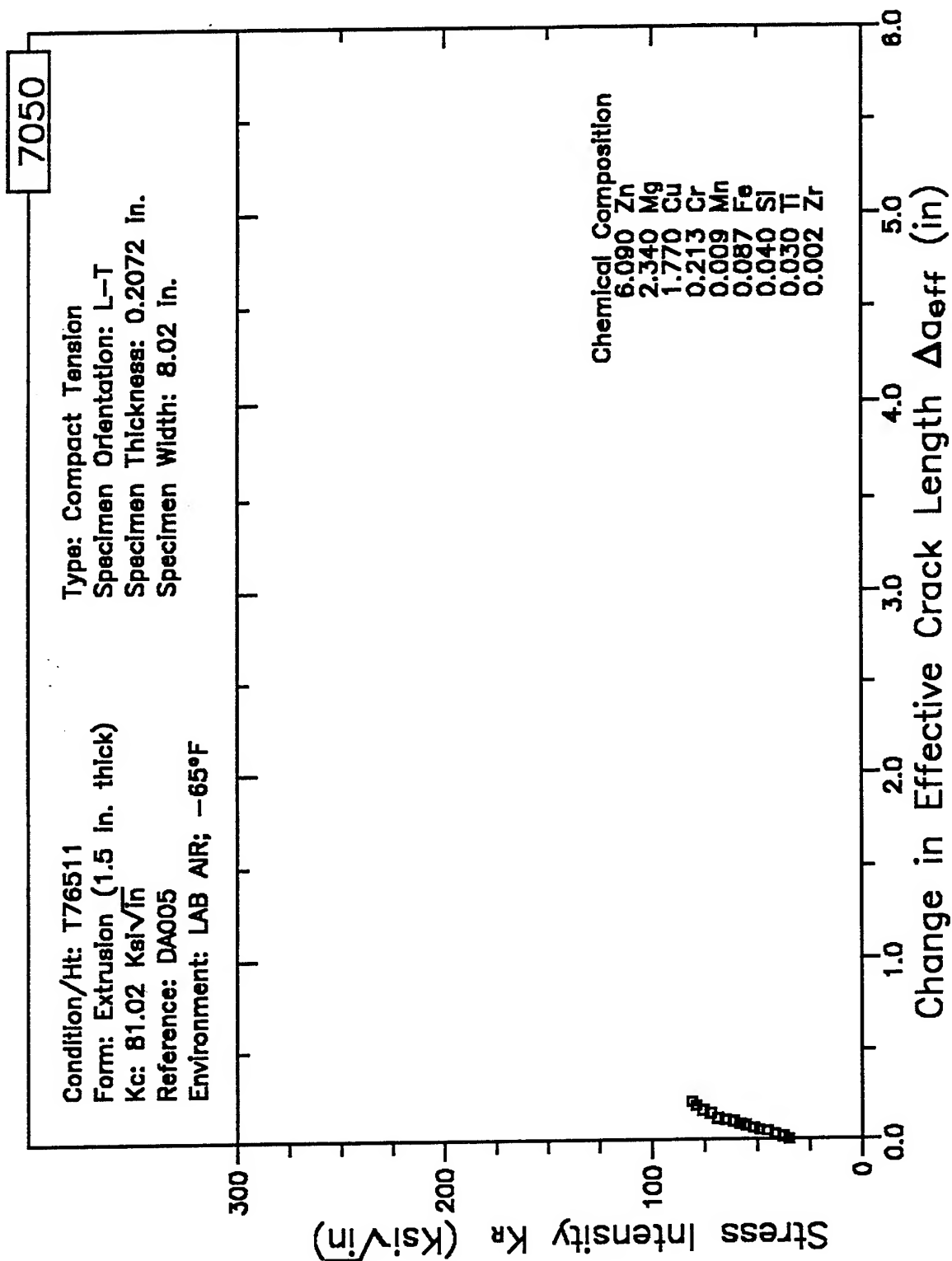


Figure 8.7.2.3.78

RESISTANCE CURVE

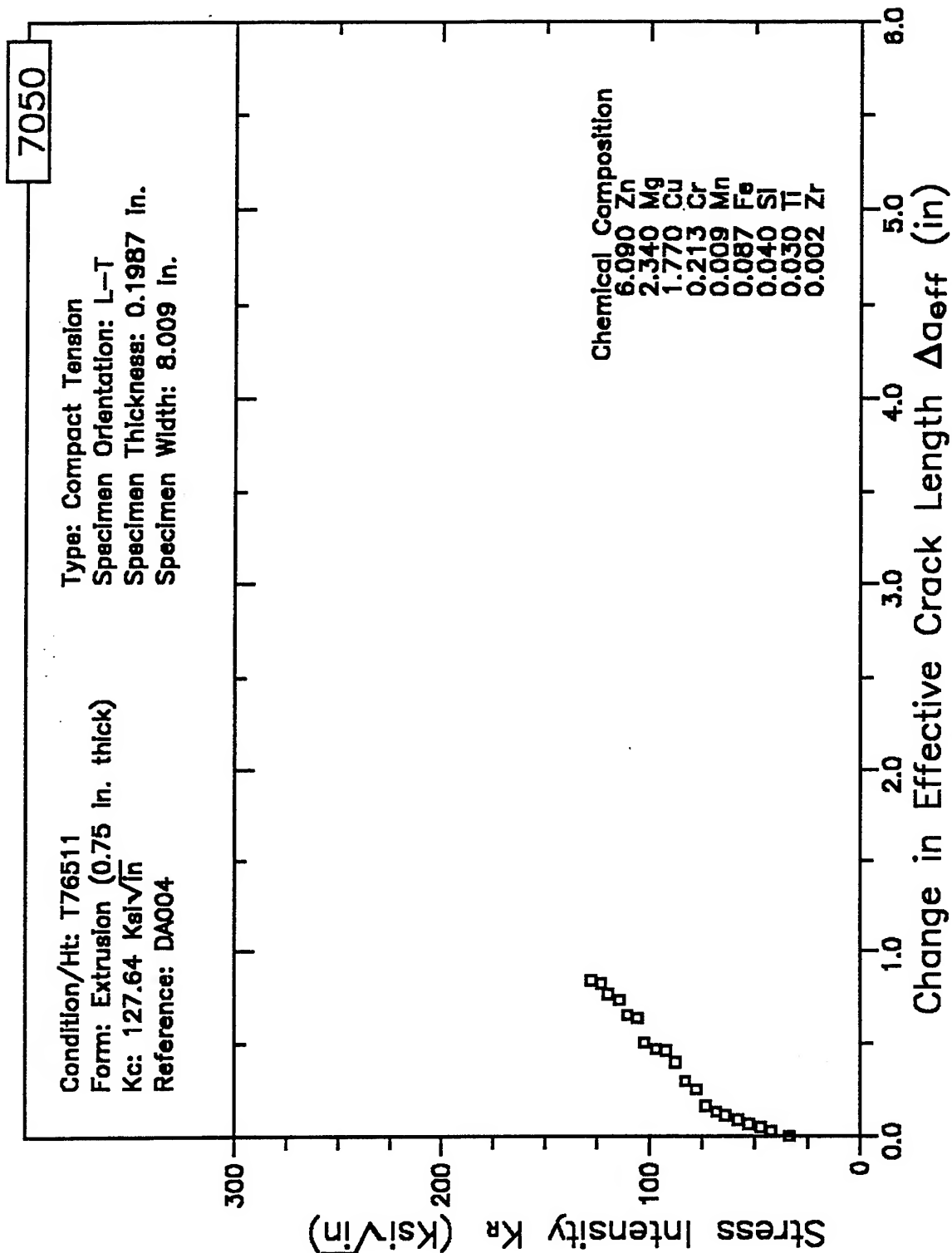


Figure 8.7.2.3.79

RESISTANCE CURVE

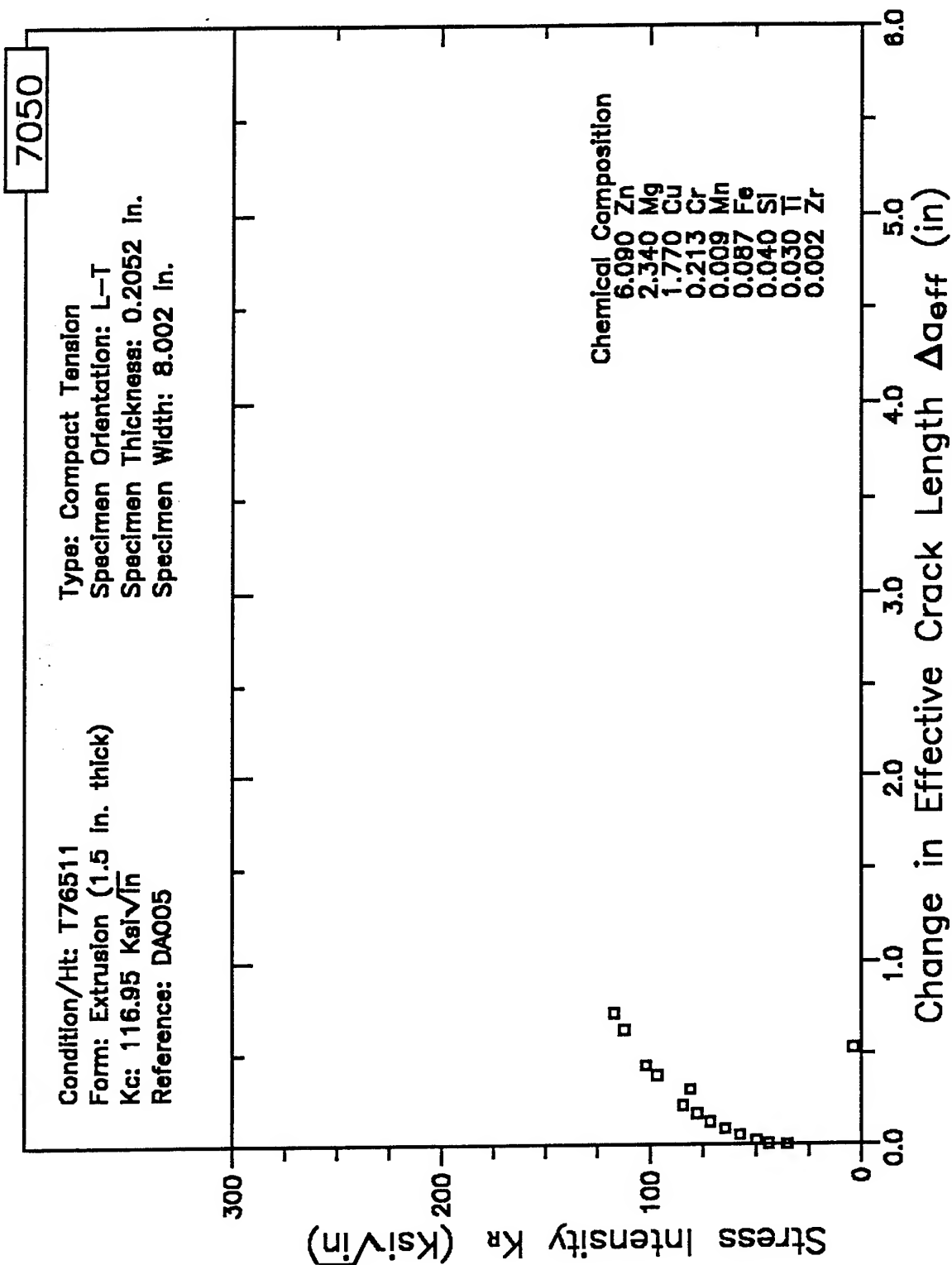


Figure 8.7.2.3.80

RESISTANCE CURVE

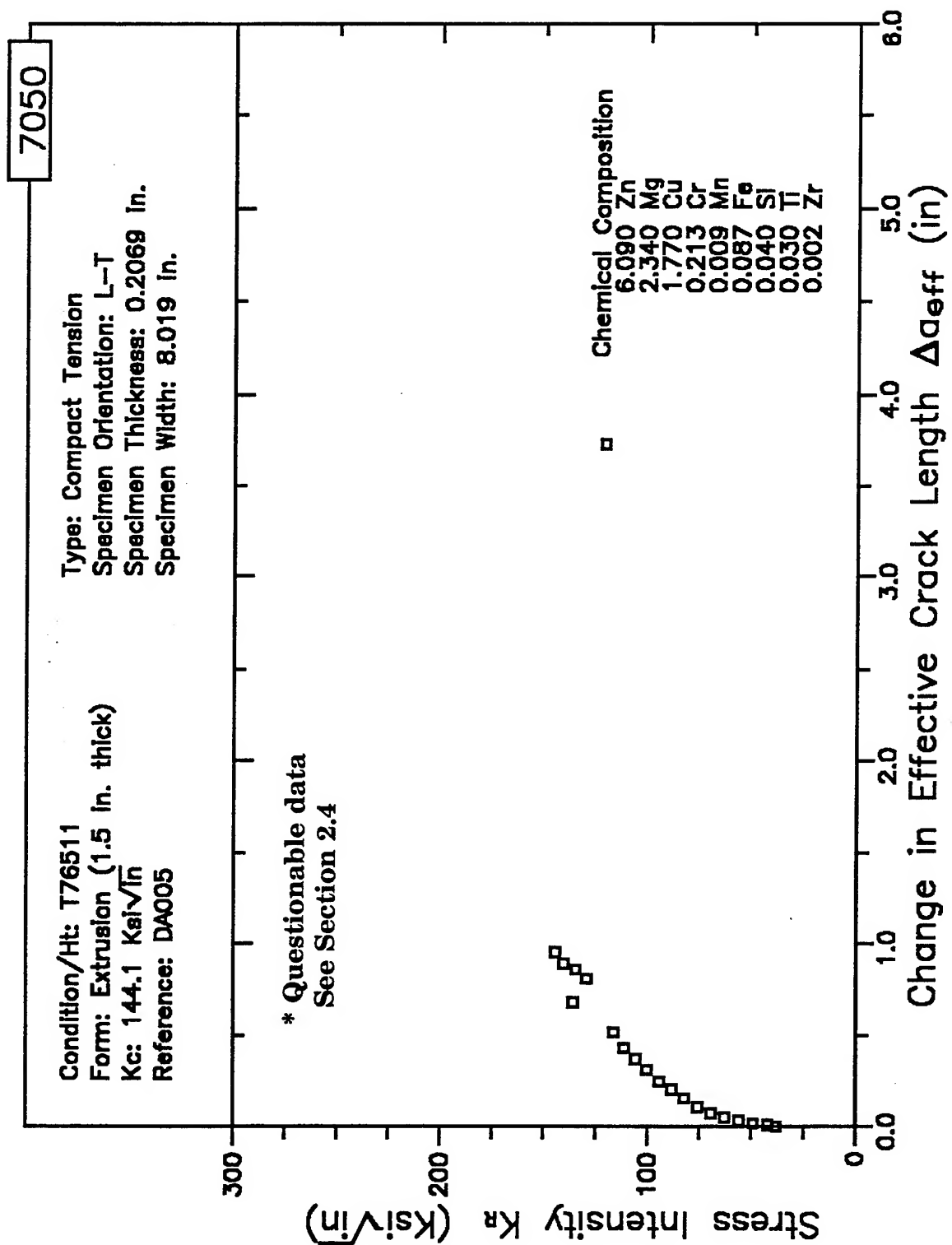


Figure 8.7.2.3.81

RESISTANCE CURVE

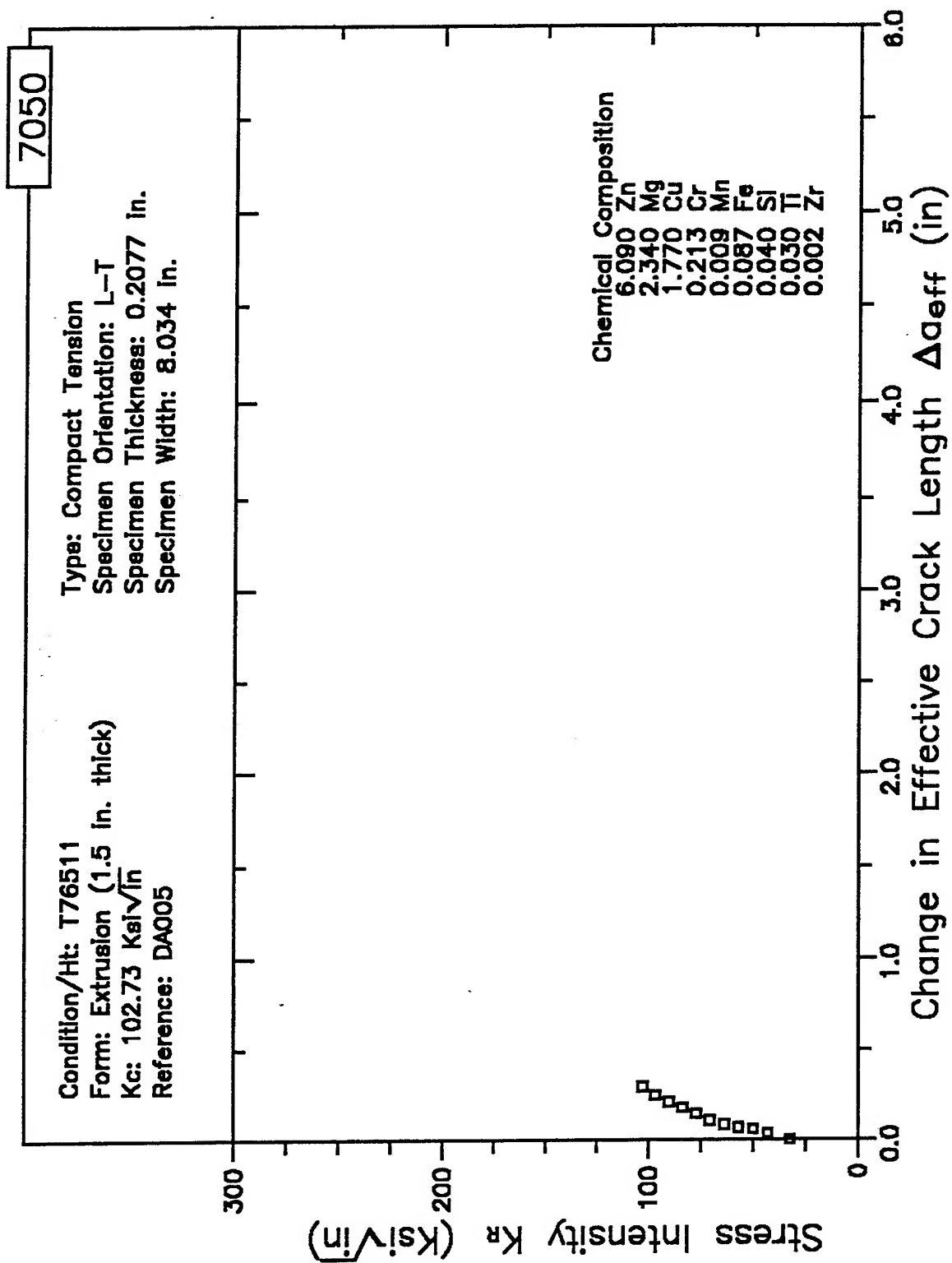


Figure 8.7.2.3.82

RESISTANCE CURVE

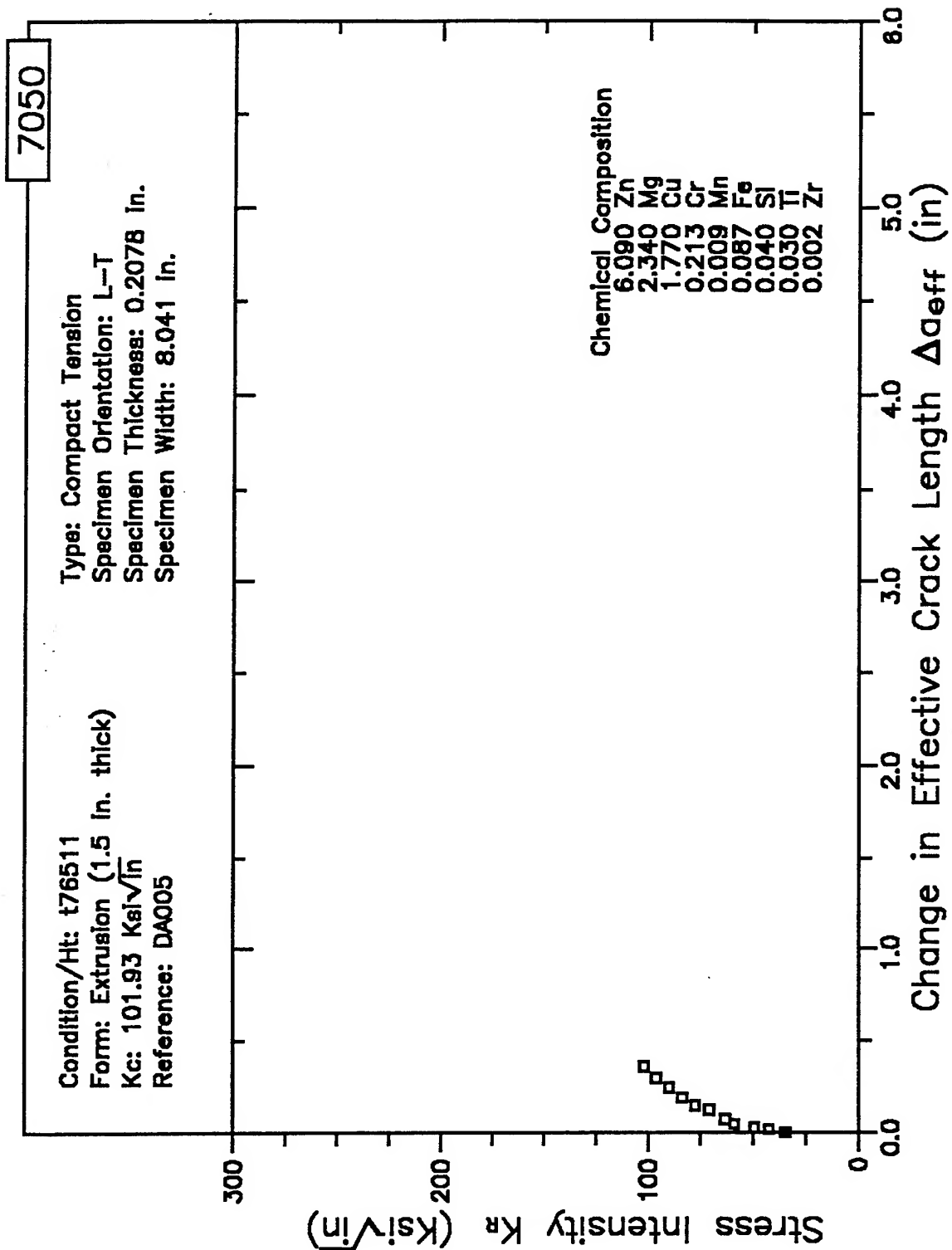
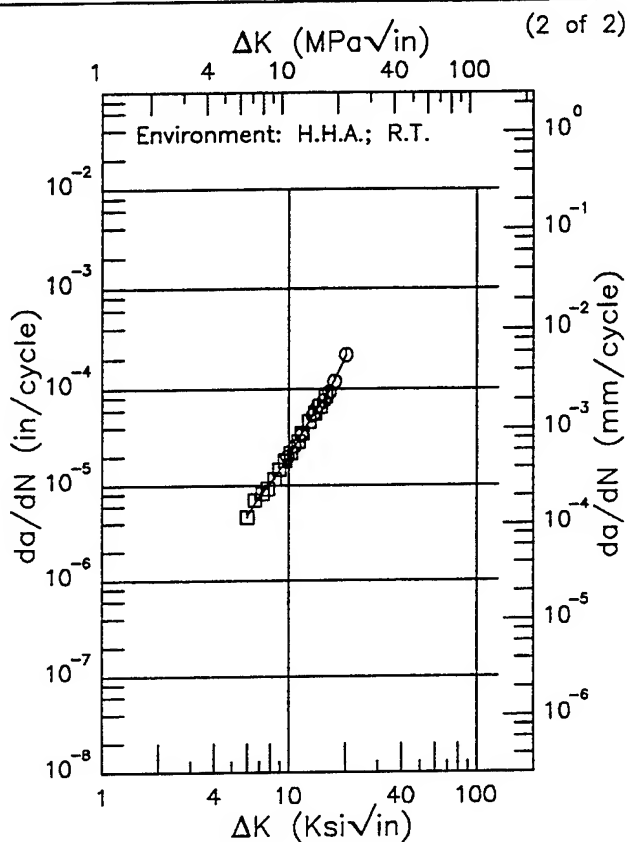
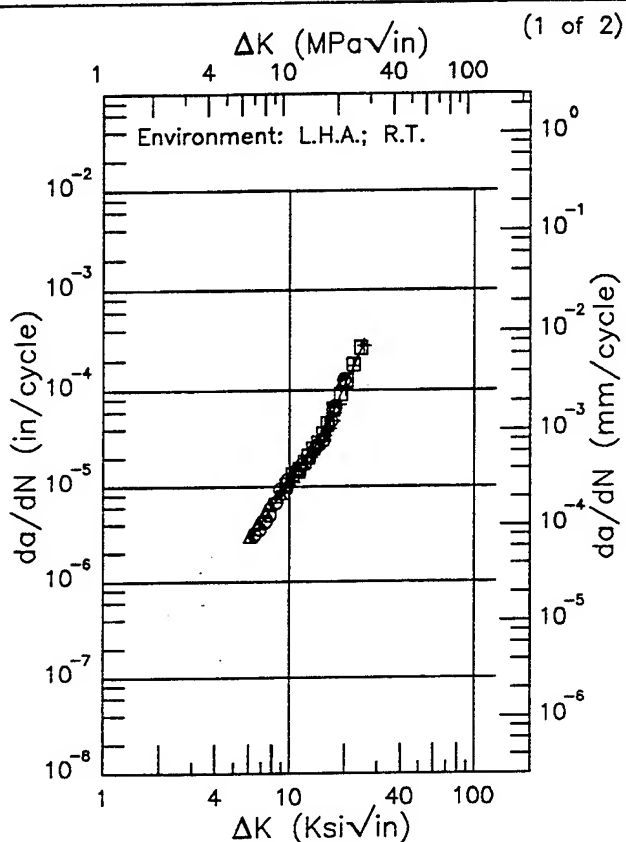


Figure 8.7.2.3.83

7050

Condition/Ht: T6
 Form: 0.18 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 74.5 - 75 ksi
 Ult. Strength: 82.7 - 83.2 ksi
 Specimen Thk: 0.176 - 0.18 in.
 Specimen Width: 4 in.
 Ref: 86213



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.13 (min)	2.81
7.	4.10
8.	6.14
9.	8.76
10.	11.8
13.	22.0
16.	41.1
20.	115.
25.	281.
25.27 (max)	291.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.00 (min)	4.85
7.	7.65
8.	10.7
9.	14.6
10.	20.1
13.	48.5
16.	86.3
20.	211.
20.15 (max)	218.

RMS %
 Error
 8.29

Life Prediction Ratio Summary
 $\Delta \sigma +$
 0. .5 .8 1.25 2. ---

RMS %
 Error
 3.74

Life Prediction Ratio Summary
 σ
 0. .5 .8 1.25 2. ---

Figure 8.7.3.1.1

Condition/Ht: T6
 Form: 0.18 in. Extrusion
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: H.H.A.; RT

Yield Strength: 74.5 ksi
 Ult. Strength: 82.7 ksi
 Specimen Thk: 0.181 in.
 Specimen Width: 3.999 in.
 Ref: 86213

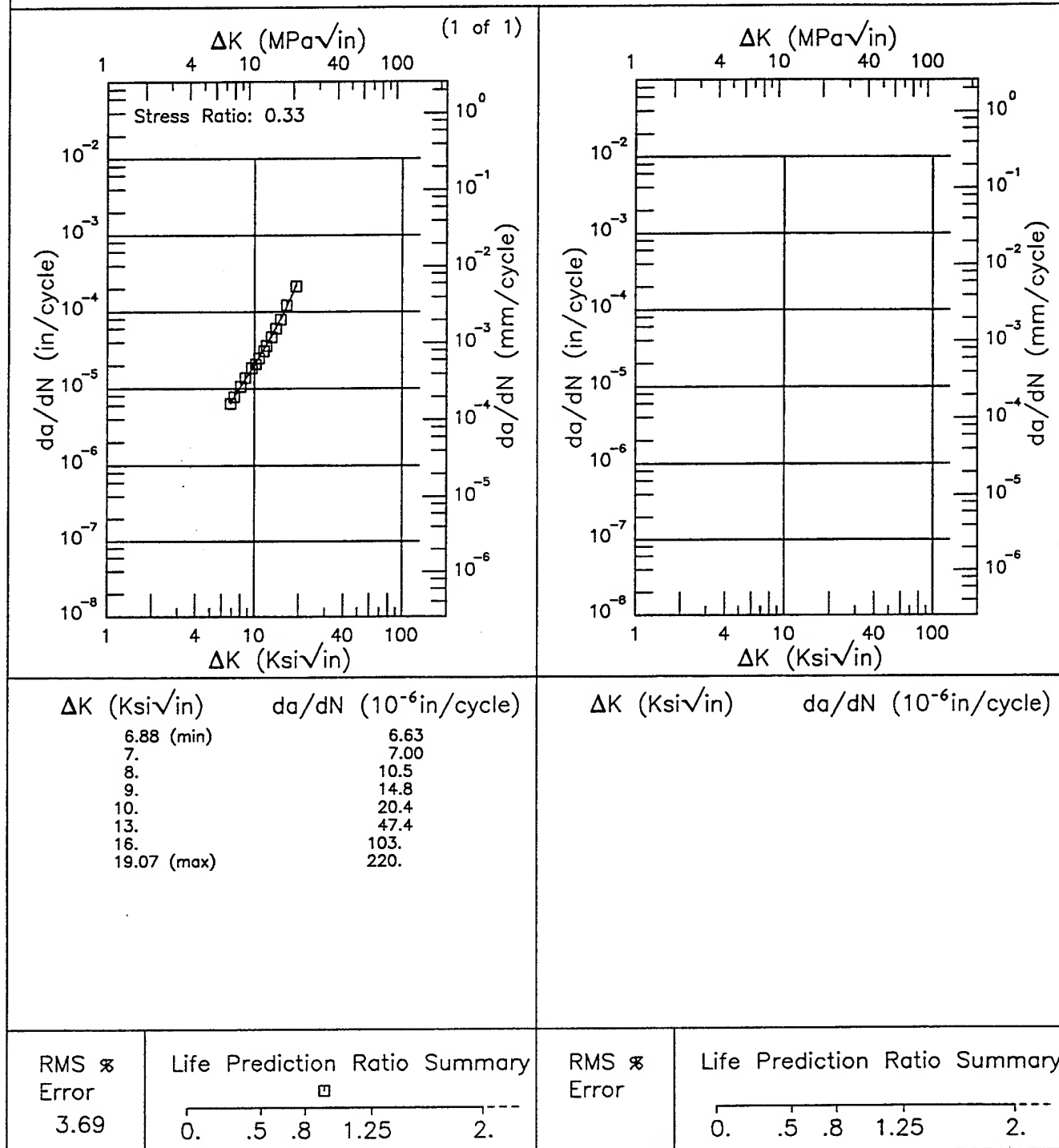


Figure 8.7.3.1.2

R

7050

Condition/Ht: T6-412972

Form: 0.18 in. Sheet

Specimen Type: CCP (max load specified)

Orientation: T-L

Frequency: 13.3 Hz

Environment: H.H.A.; RT

Yield Strength: 75 ksi

Ult. Strength: 83.2 ksi

Specimen Thk: 0.177 in.

Specimen Width: 4 in.

Ref: 86213

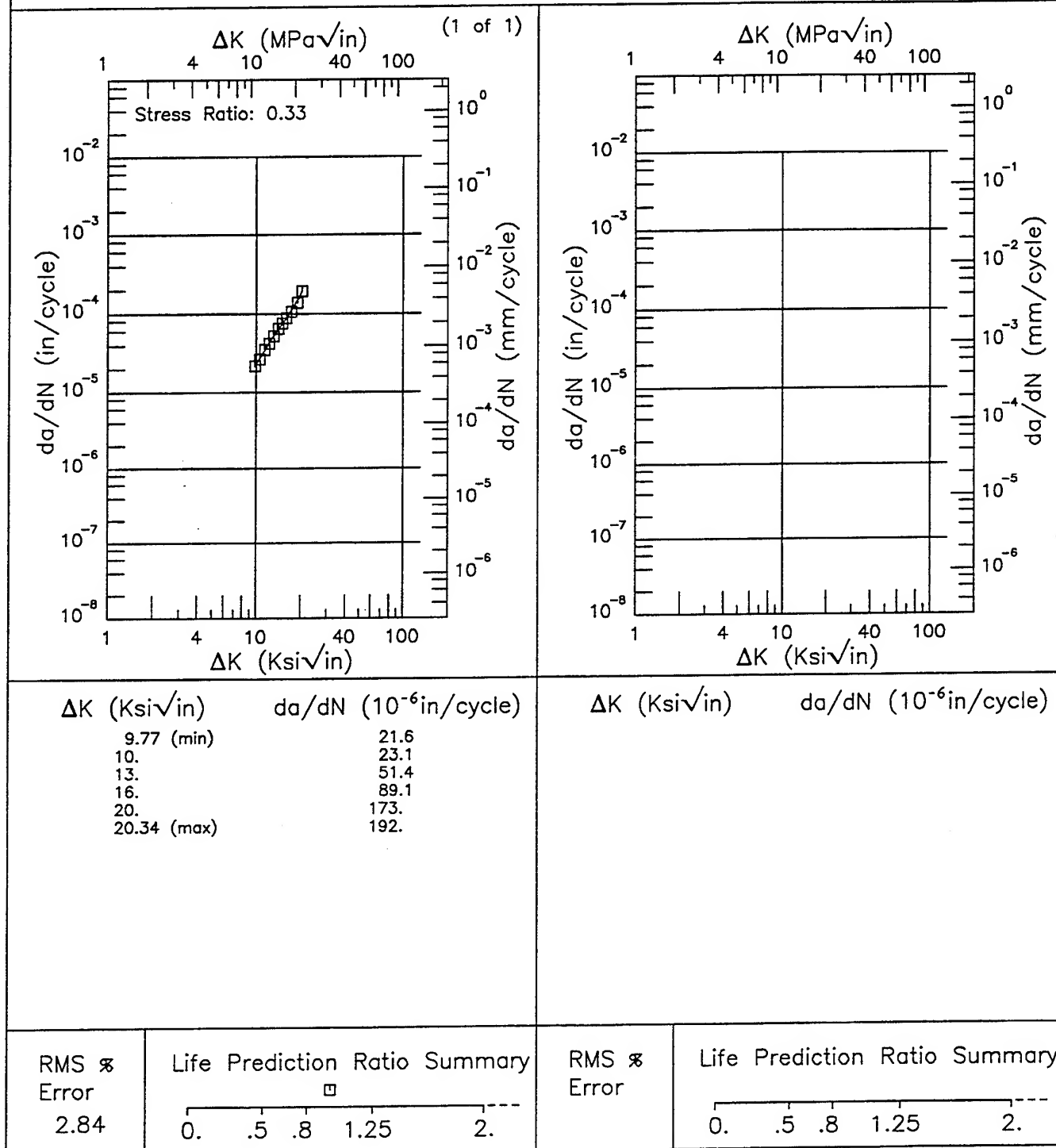


Figure 8.7.3.1.3

Condition/Ht: T73
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 71 ksi
 Ult. Strength: 78 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 2.81 in.
 Ref: 88579

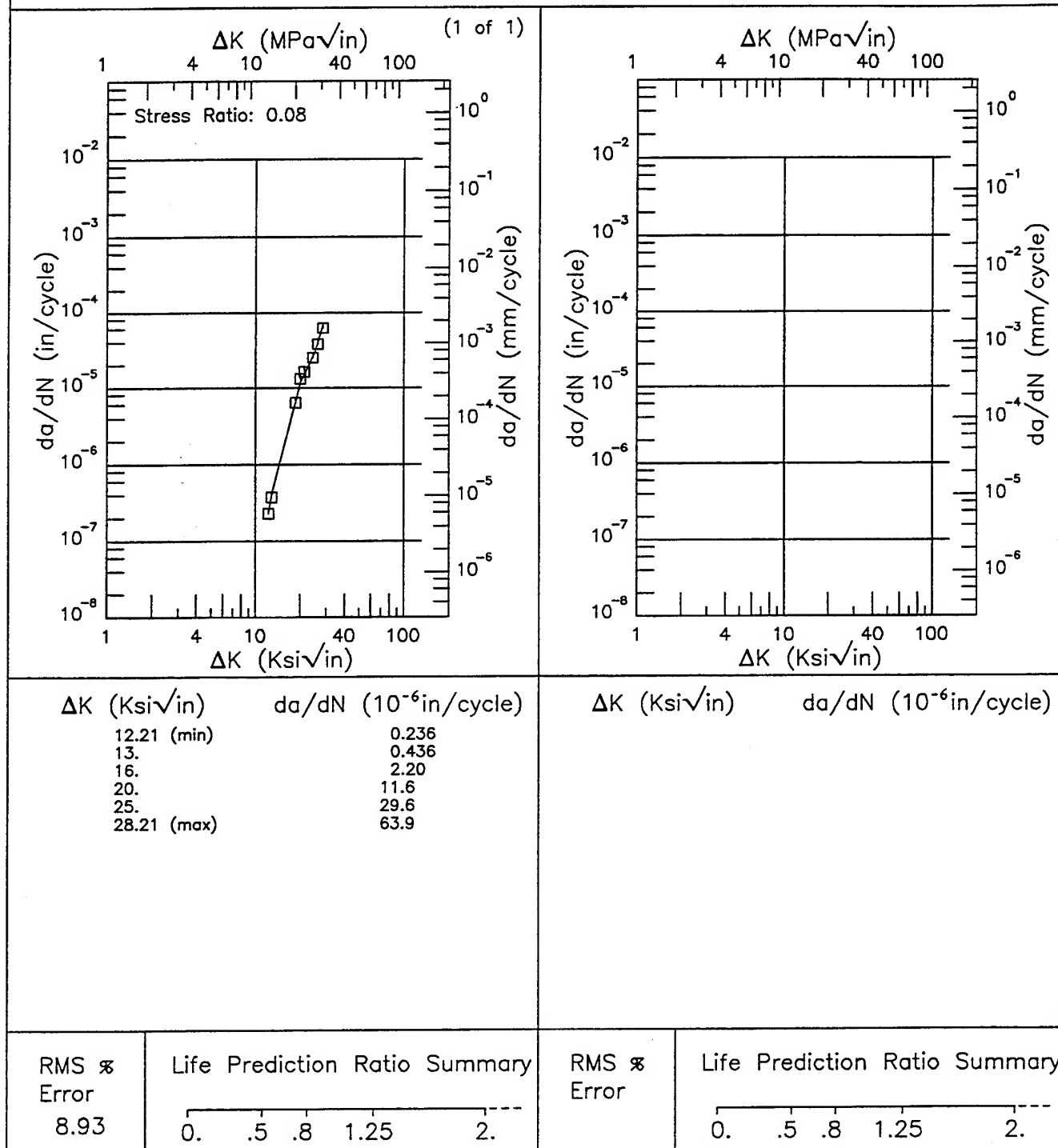
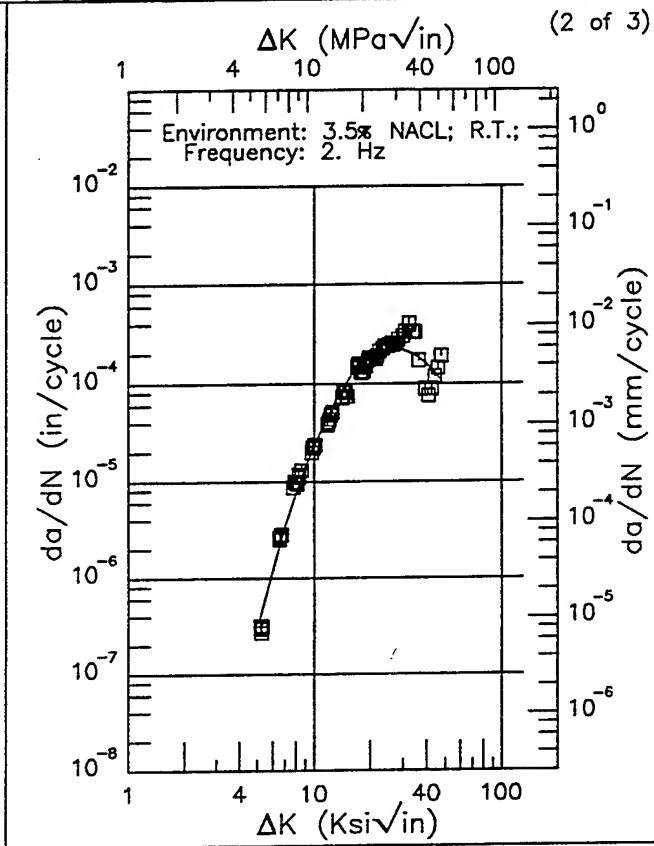
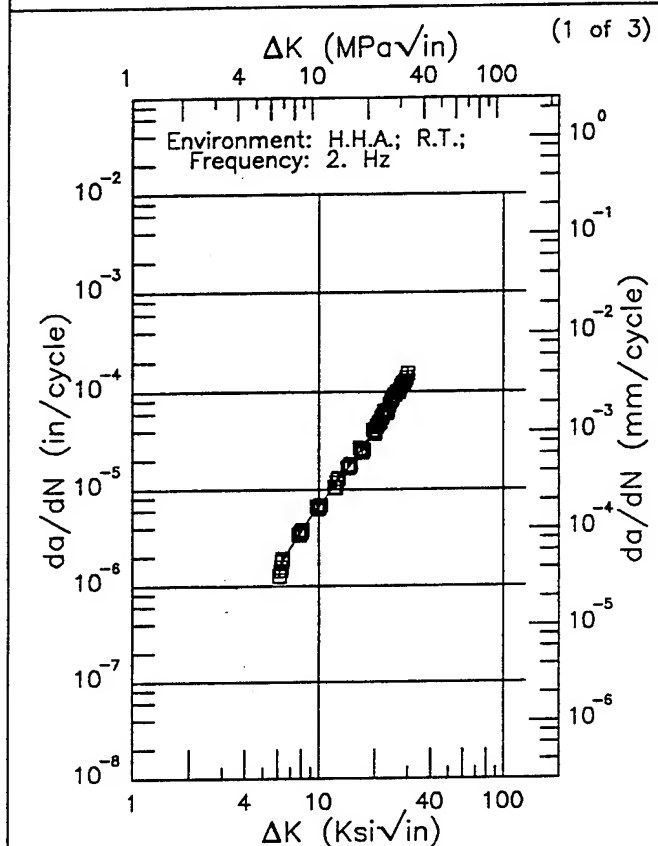


Figure 8.7.3.1.4

EF 7050

Condition/Ht: T7351
Form: 1 in. Plate
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.1

Yield Strength:
Ult. Strength:
Specimen Thk: 0.148 - 0.152 in.
Specimen Width: 3 in.
Ref: 86844



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.08 (min)	1.52
7.	2.47
8.	3.71
9.	5.15
10.	6.79
13.	13.1
16.	22.4
20.	41.9
25.	83.8
30.	139.
30.08 (max)	139.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.19 (min)	0.394
6.	1.17
7.	3.34
8.	7.48
9.	14.2
10.	23.7
13.	67.4
16.	122.
20.	184.
25.	222.
30.	218.
35.	192.
40.	158.
47.69 (max)	109.

RMS %
Error
5.65

Life Prediction Ratio Summary
0. .5 .8 1.25 2.---

RMS %
Error
27.48

Life Prediction Ratio Summary
0. .5 .8 1.25 2.---

Figure 8.7.3.1.5

Condition/Ht: T7351
 Form: 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.148 - 0.152 in.
 Specimen Width: 3 in.
 Ref: 86844

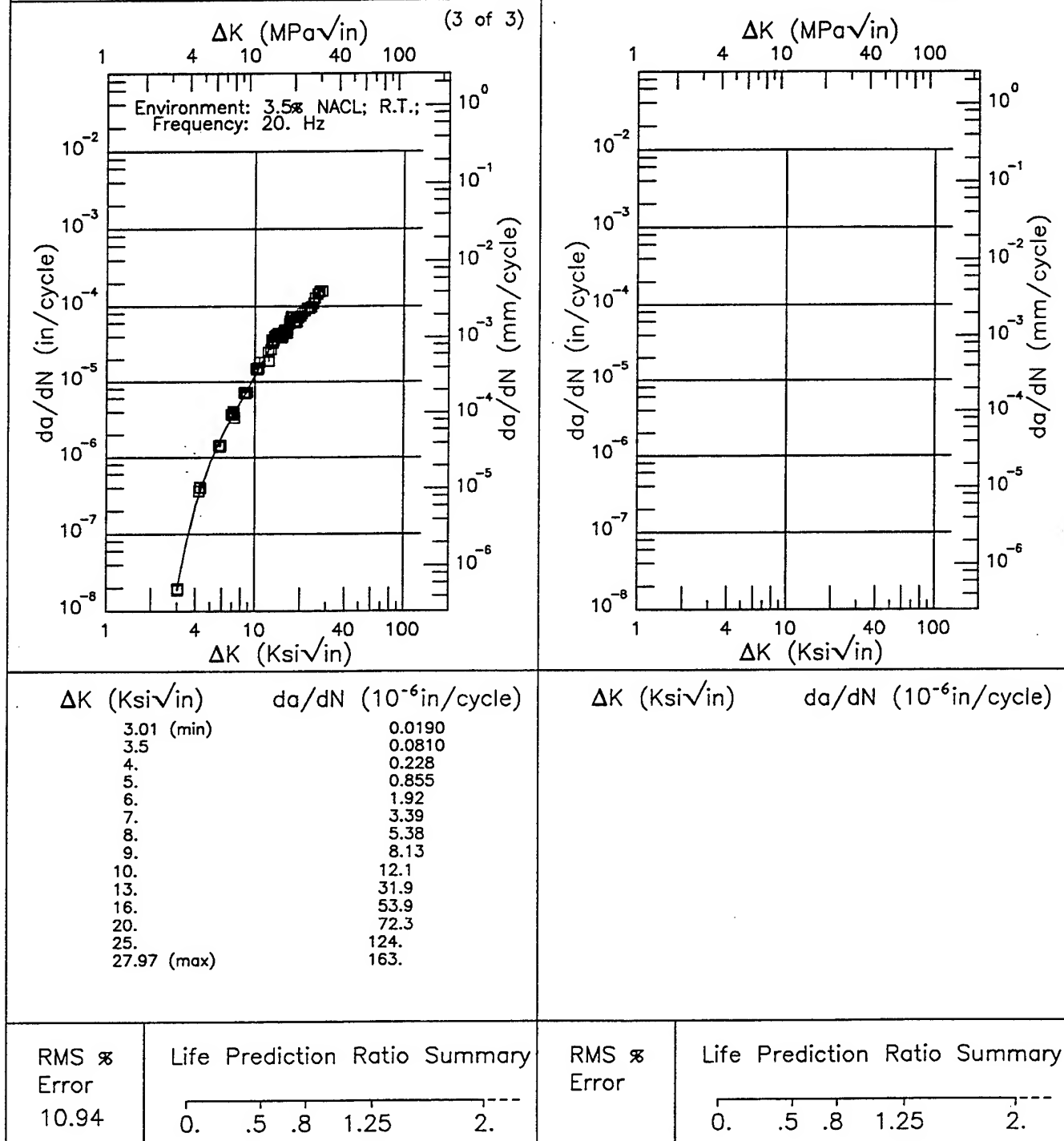


Figure 8.7.3.1.5 (Concluded)

R

7050

Condition/Ht: T7351

Form: 2 in. Plate

Specimen Type: CT

Orientation: L-T

Frequency: 15 Hz

Environment: DRY AIR; RT

Yield Strength: 61.1 ksi

Ult. Strength: 71.8 ksi

Specimen Thk: 1 in.

Specimen Width: 3.805 in.

Ref: AL001

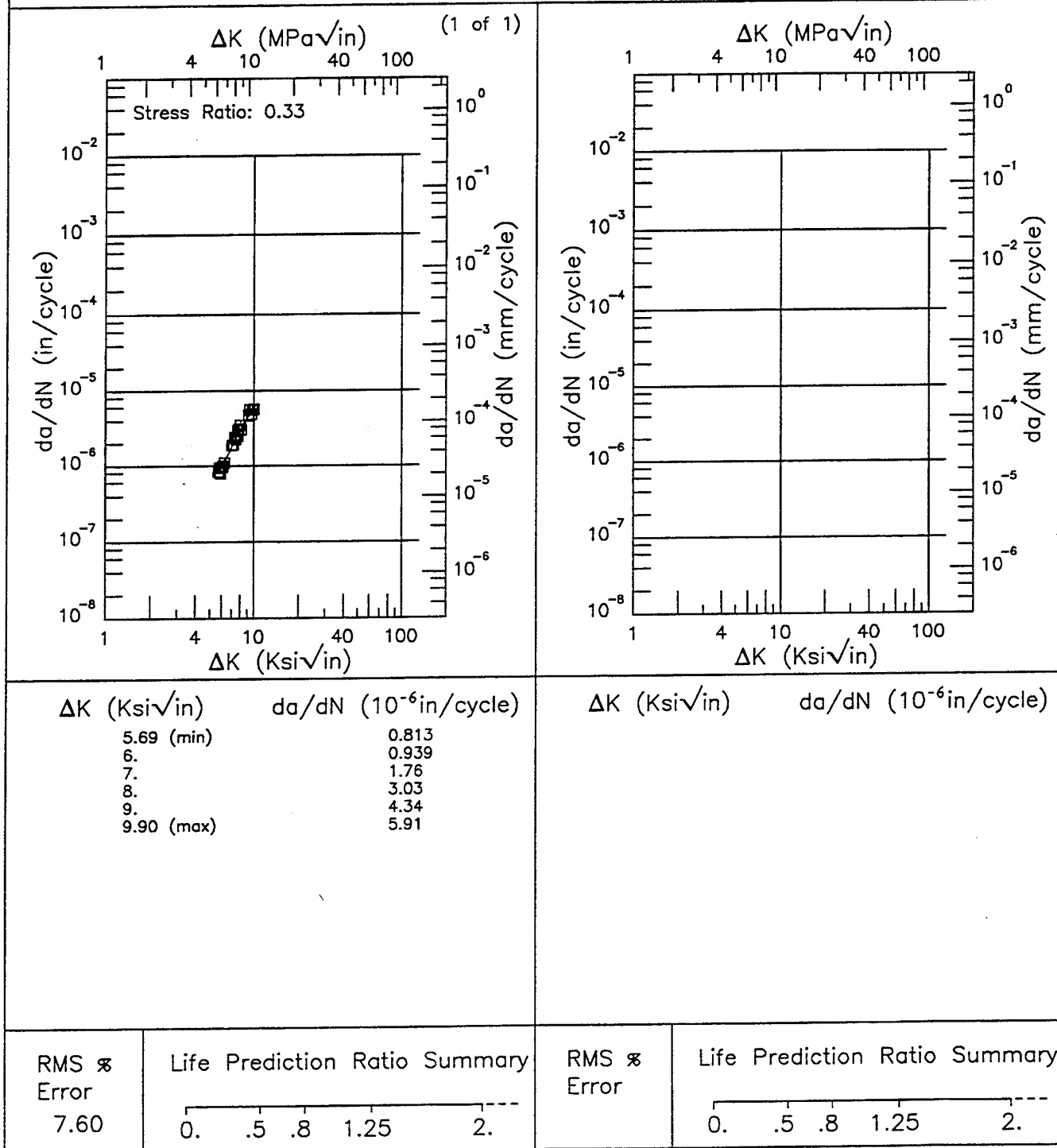


Figure 8.7.3.1.6

Condition/Ht: T7351
 Form: 2 - 4 in. Plate.
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 2 - 20 Hz

Yield Strength: 61.1 - 63.7 ksi
 Ult. Strength: 71.8 - 73.1 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.1 in.
 Ref: AL001

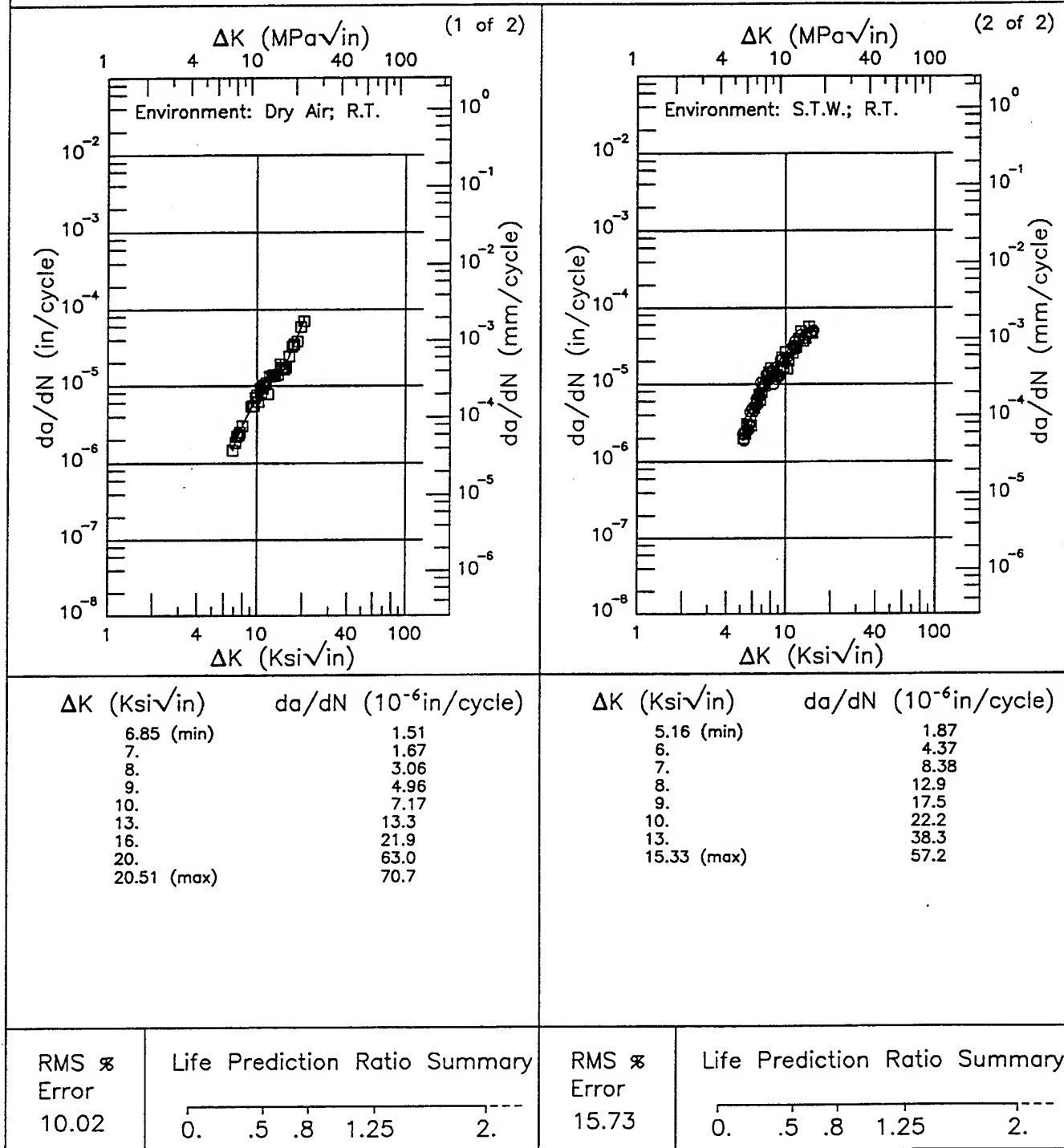
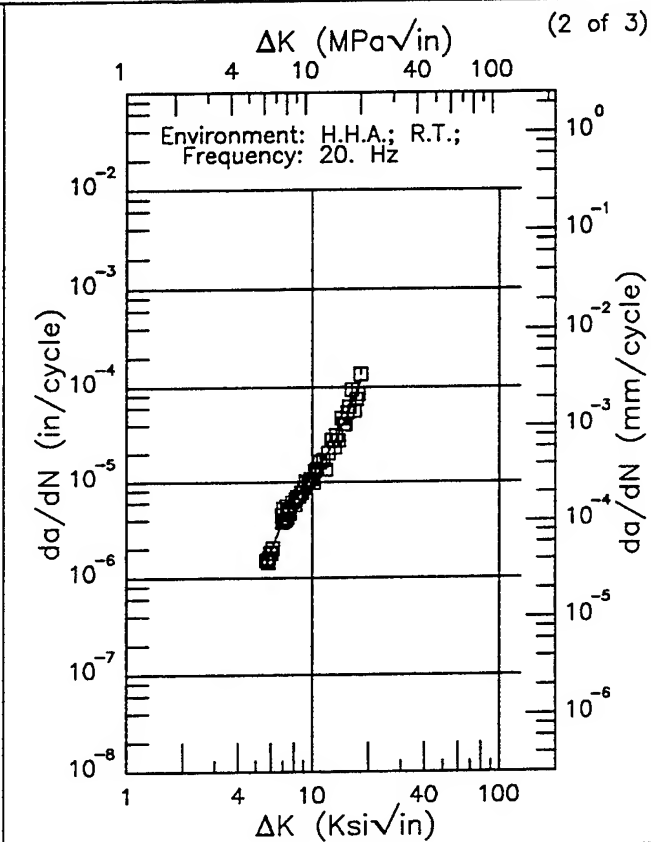
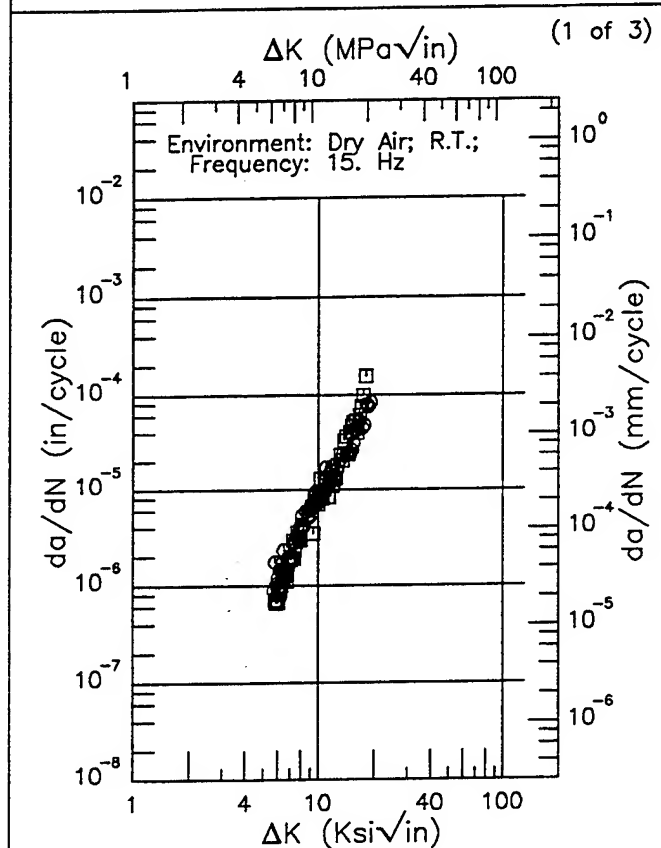


Figure 8.7.3.1.7

EF 7050

Condition/Ht: T7351
 Form: 2 - 4 in. Plate.
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33

Yield Strength: 60.9 - 63.4 ksi
 Ult. Strength: 72.1 - 74.4 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL001

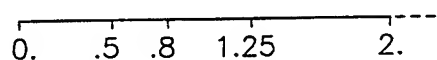


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.69 (min)	0.706
6.	0.947
7.	2.02
8.	3.57
9.	5.60
10.	8.18
13.	20.6
16.	46.2
18.96 (max)	102.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.68 (min)	1.43
6.	1.93
7.	3.89
8.	6.23
9.	8.83
10.	11.8
13.	25.4
16.	59.4
18.14 (max)	120.

RMS $\%$
 Error
 25.81

Life Prediction Ratio Summary



RMS $\%$
 Error
 14.01

Life Prediction Ratio Summary

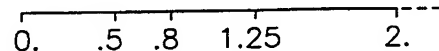


Figure 8.7.3.1.8

Condition/Ht: T7351
 Form: 2 - 4 in. Plate.
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33

Yield Strength: 60.9 - 63.4 ksi
 Ult. Strength: 72.1 - 74.4 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL001

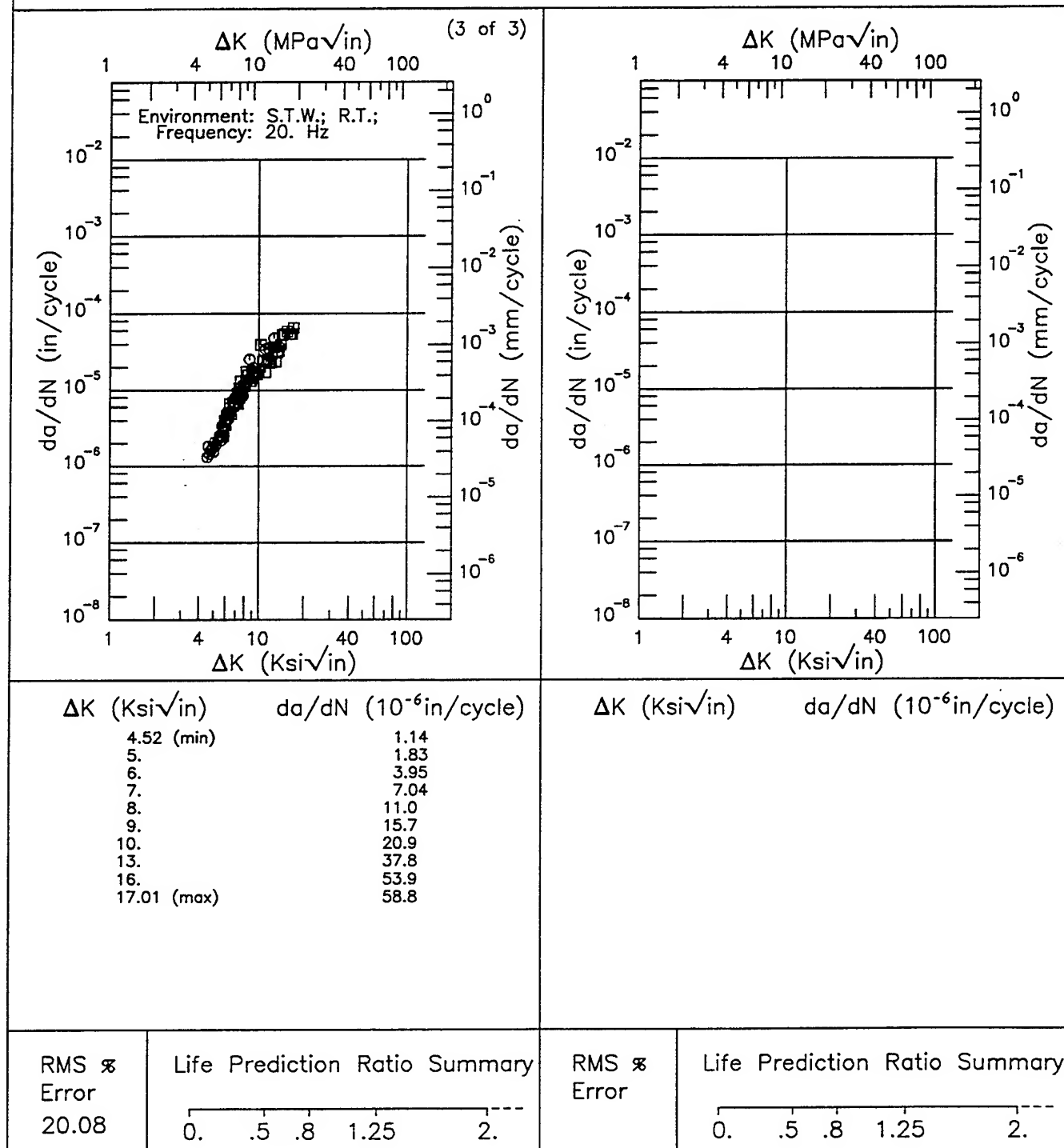


Figure 8.7.3.1.8 (Concluded)

7050

E

Condition/Ht: T7351
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.67
 Frequency: 30 Hz

Yield Strength: 63.4 ksi
 Ult. Strength: 74.4 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 2.55 in.
 Ref: AL001

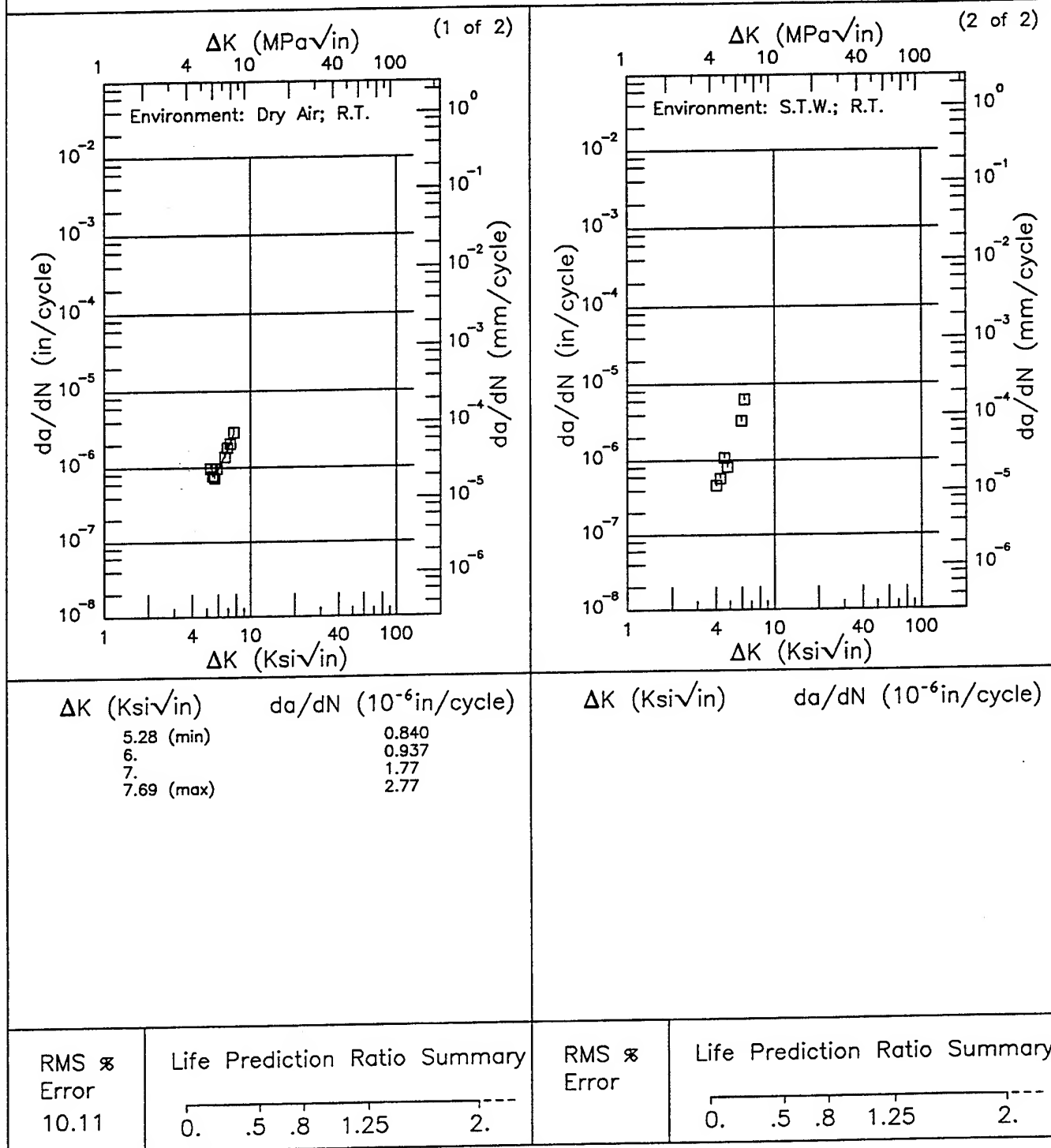


Figure 8.7.3.1.9

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EF

7050

Condition/Ht: T7351

Form: 4 in. Plate

Specimen Type: CT

Orientation: S-L

Stress Ratio: 0.33

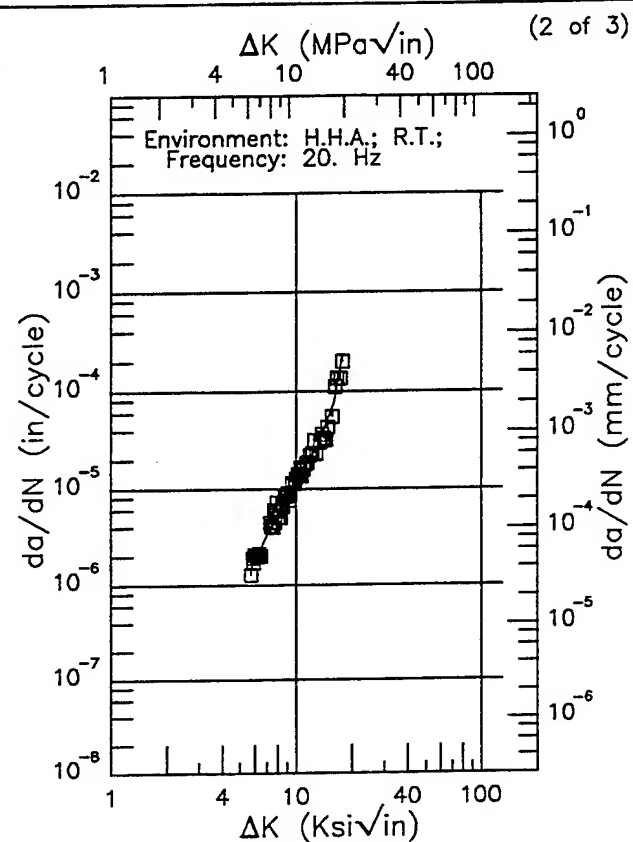
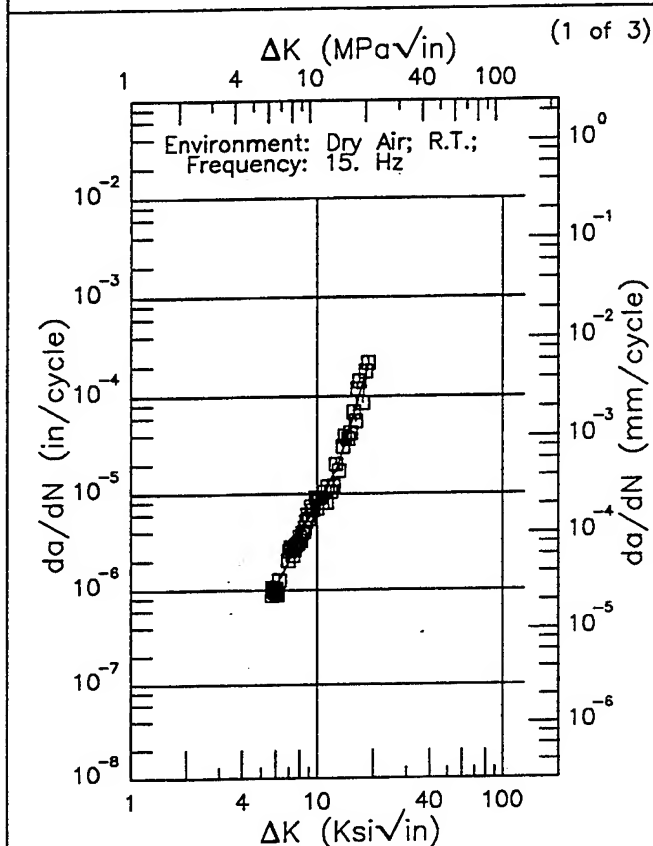
Yield Strength: 60 ksi

Ult. Strength: 72.4 ksi

Specimen Thk: 1 in.

Specimen Width: 3.805 in.

Ref: AL001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.73 (min)	0.924
6.	1.05
7.	1.96
8.	3.64
9.	5.77
10.	7.62
13.	19.4
16.	73.6
18.78 (max)	206.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.73 (min)	1.48
6.	1.76
7.	3.29
8.	5.64
9.	8.78
10.	12.4
13.	26.9
16.	74.3
17.68 (max)	219.

RMS %
Error
16.10

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
Error
14.48

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.10

Condition/Ht: T7351
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: S-L
 Stress Ratio: 0.33

Yield Strength: 60 ksi
 Ult. Strength: 72.4 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL001

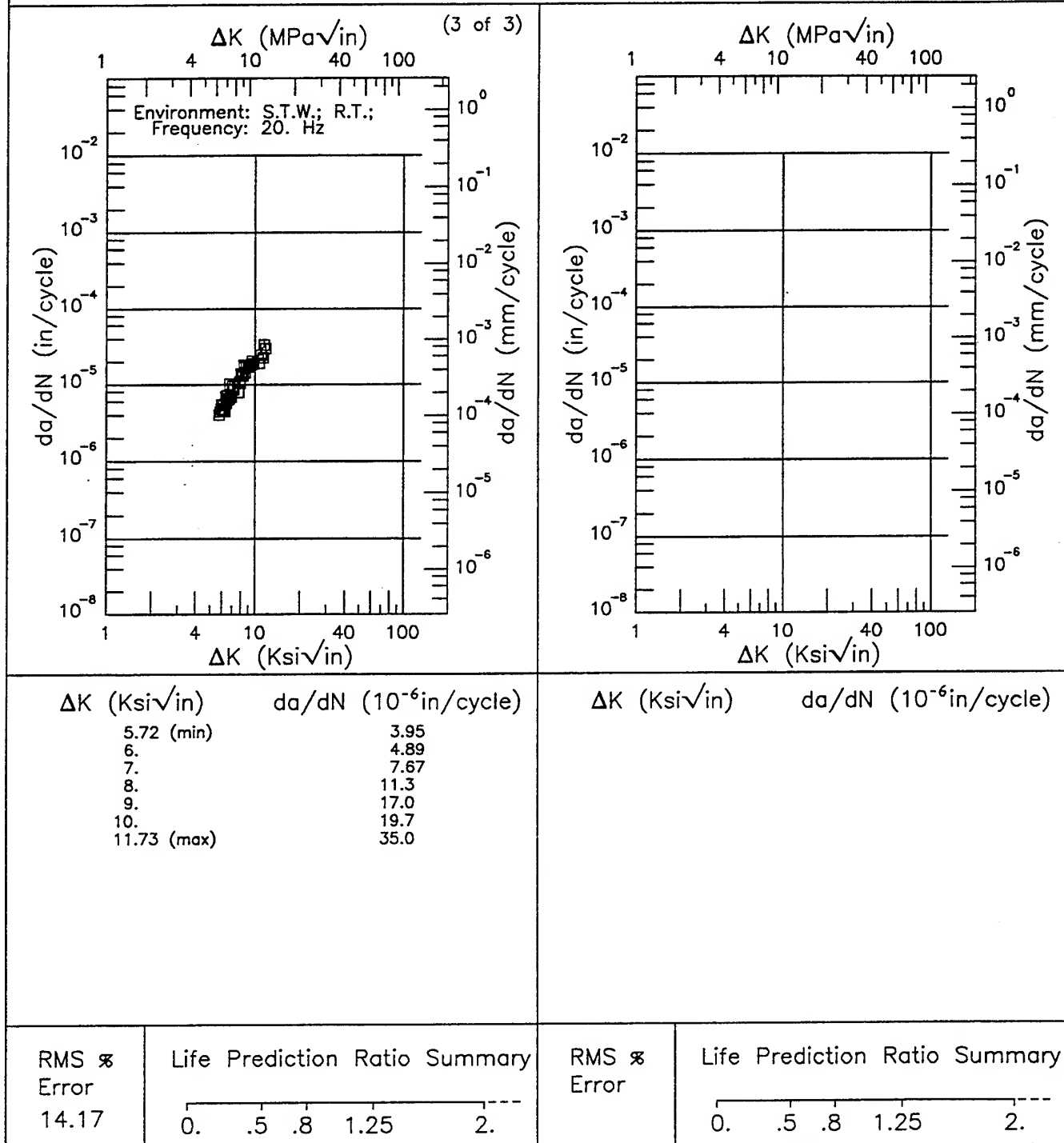


Figure 8.7.3.1.10 (Concluded)

R

7050

Condition/Ht: T73511
 Form: 1.8 in. Extrusion.
 Specimen Type: CT
 Orientation: L-T
 Frequency: 10 - 30 Hz
 Environment: L.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.249 in.
 Specimen Width: 2.5 in.
 Ref: AL006

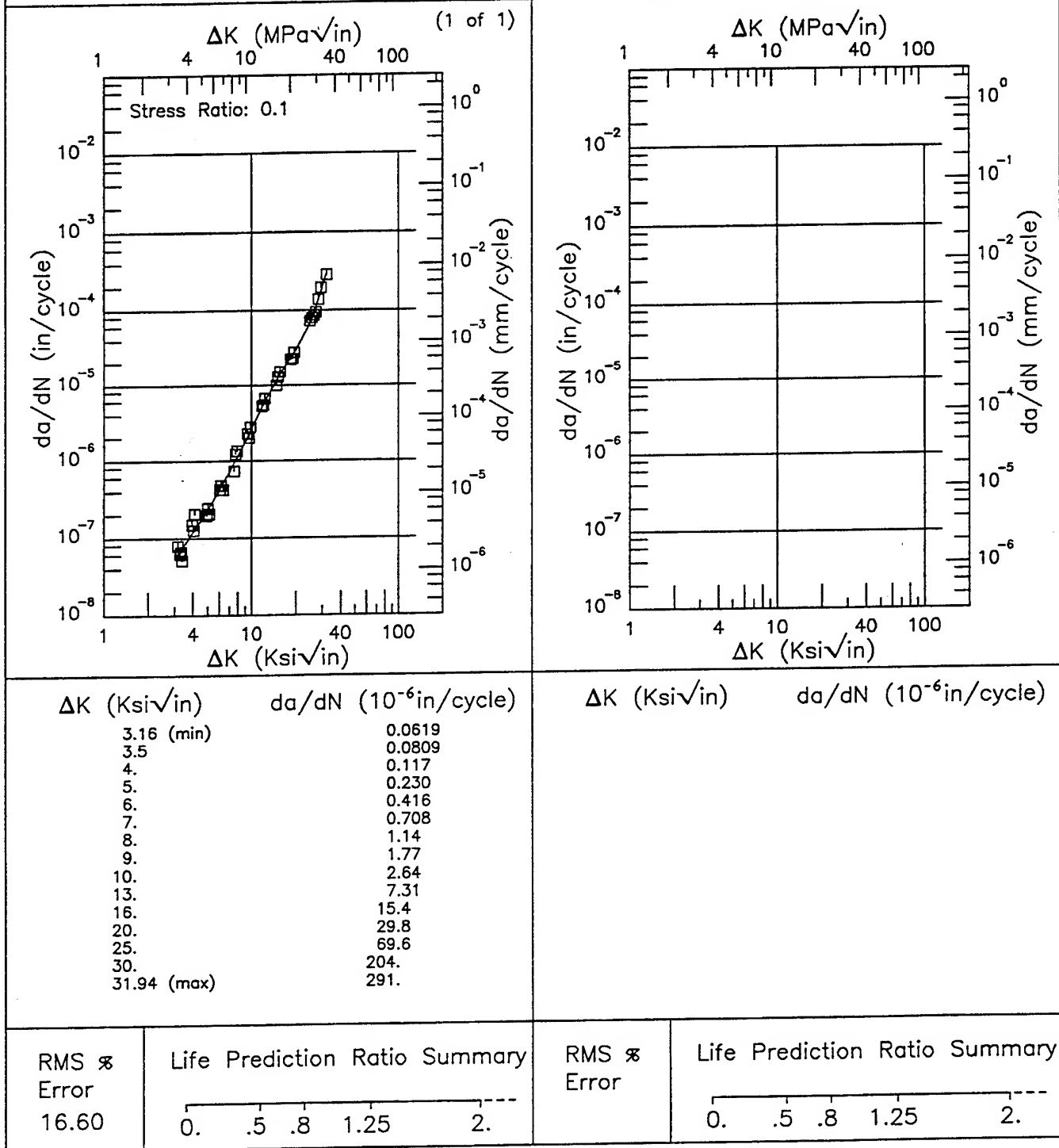


Figure 8.7.3.1.11

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.25 - 0.251 in.
 Specimen Width: 2 in.
 Ref: NC005

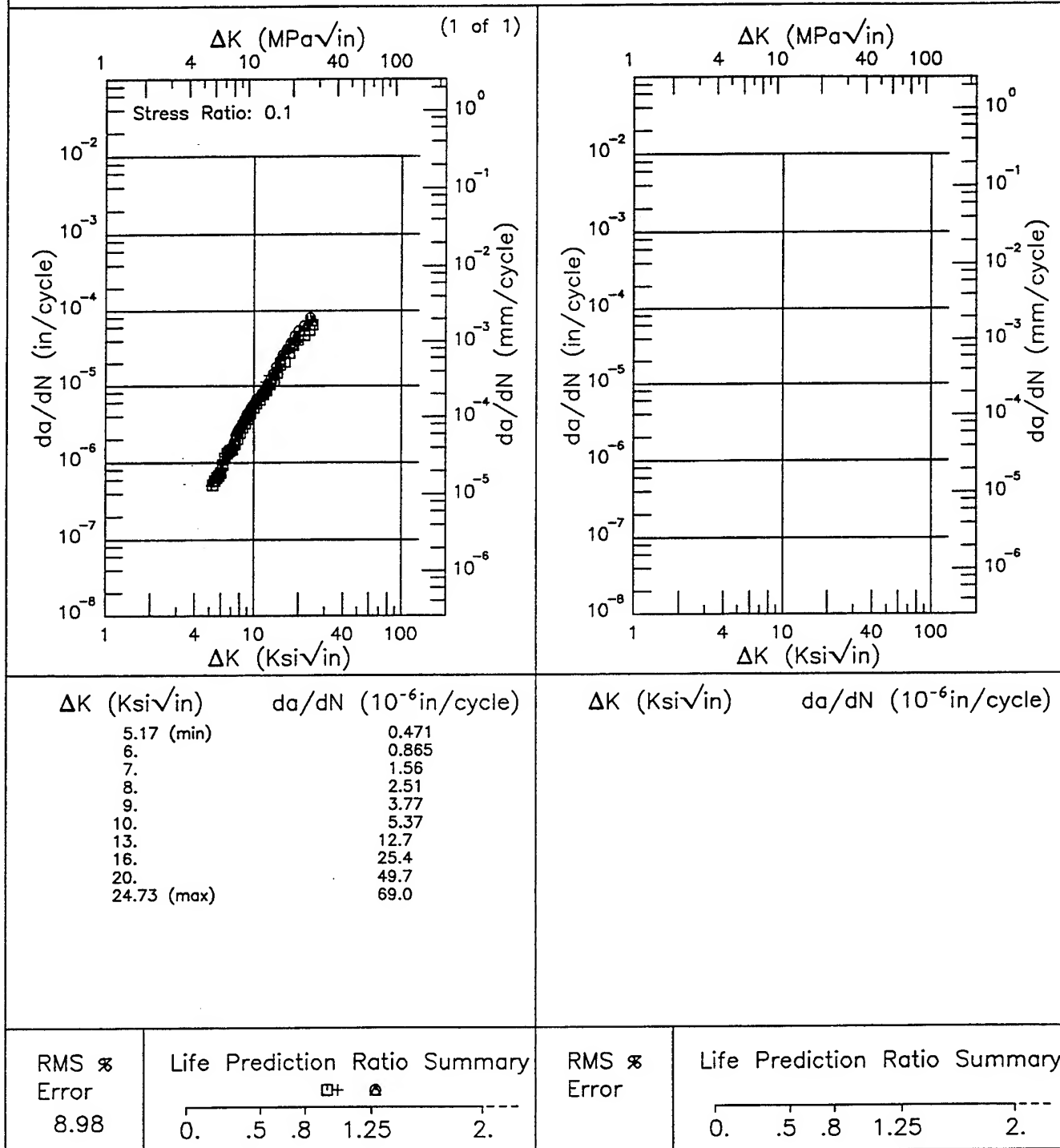
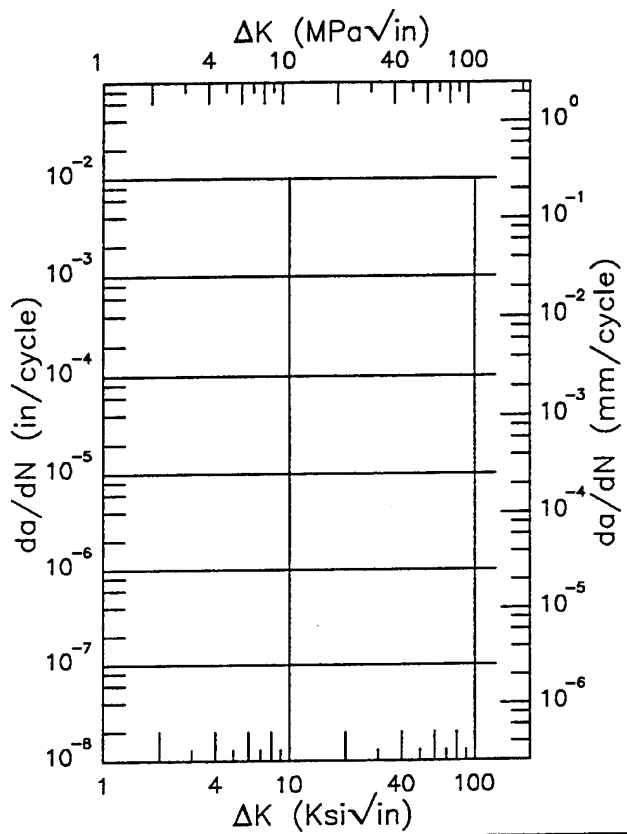
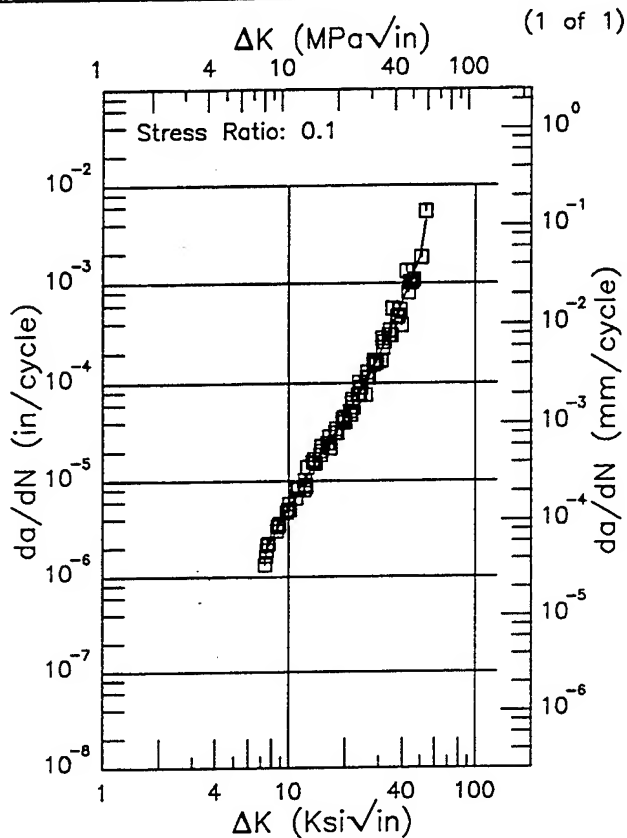


Figure 8.7.3.1.12

R | 7050 |
 Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 2 Hz
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.154 in.
 Specimen Width: 3 in.
 Ref: 86844



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.40 (min)	1.78
8.	2.39
9.	3.66
10.	5.27
13.	12.4
16.	23.4
20.	45.3
25.	90.9
30.	181.
35.	366.
40.	649.
50.	1834.
53.47 (max)	4433.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS \times
 Error
 14.93

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

RMS \times
 Error

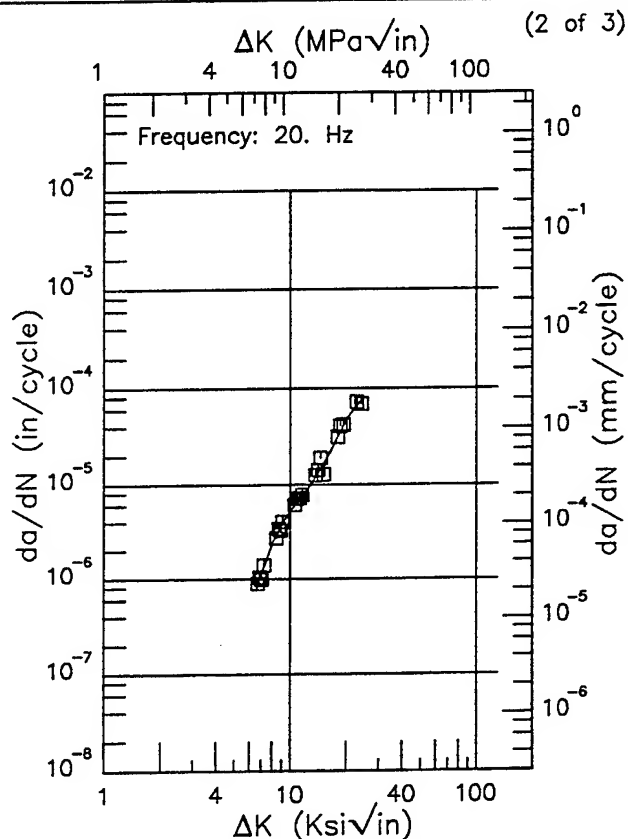
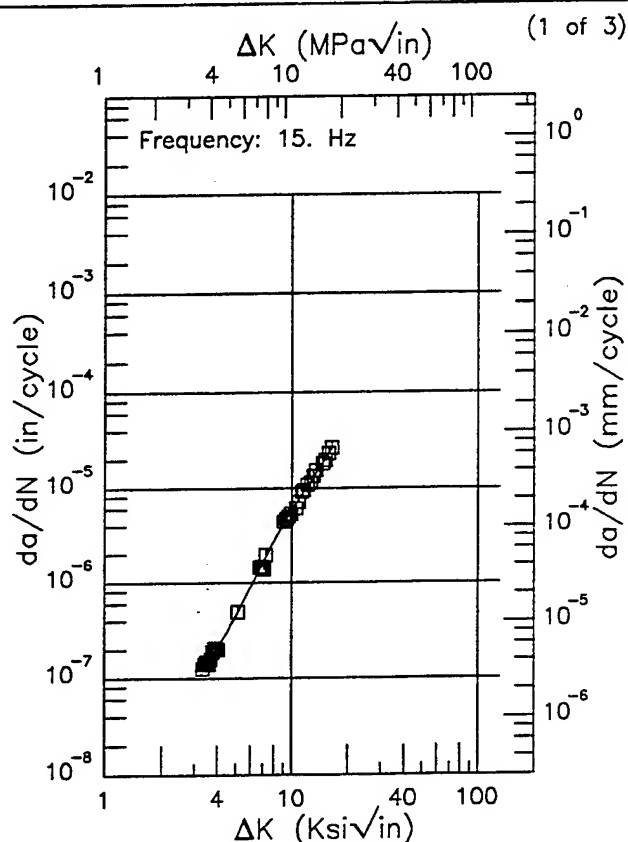
Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

Figure 8.7.3.1.13

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F | 7050 |
 Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.248 - 0.249 in.
 Specimen Width: 2.5 in.
 Ref: AL004;AL006



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.31 (min)	0.125
3.5	0.142
4.	0.207
5.	0.444
6.	0.889
7.	1.62
8.	2.70
9.	4.14
10.	5.89
13.	12.9
16.	24.6
16.26 (max)	26.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.68 (min)	0.803
7.	1.11
8.	2.33
9.	3.76
10.	5.23
13.	10.2
16.	19.7
20.	47.7
23.95 (max)	75.3

RMS %
 Error
 6.06

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 10.63

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.14

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.248 - 0.249 in.
 Specimen Width: 2.5 in.
 Ref: AL004;AL006

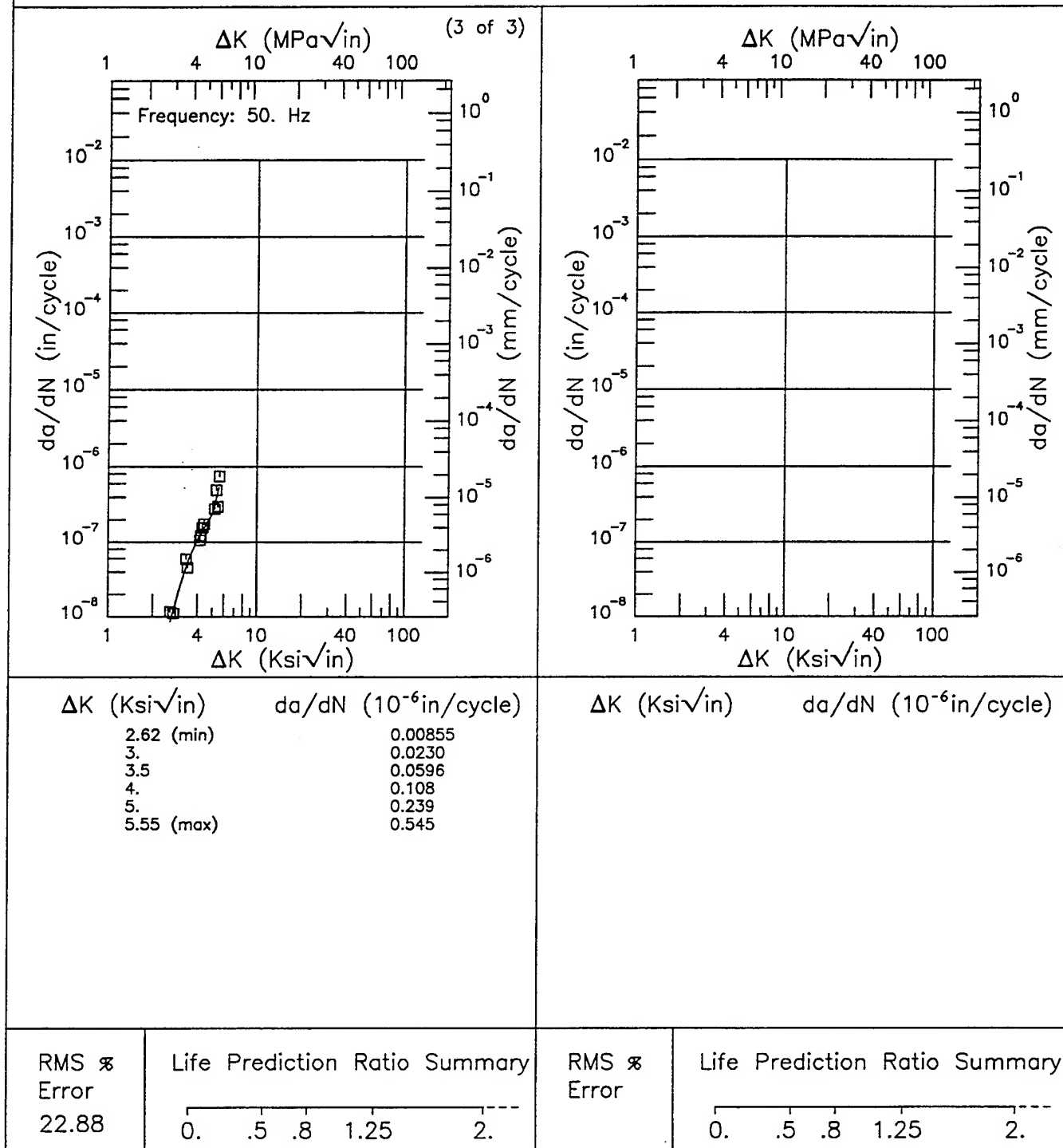


Figure 8.7.3.1.14 (Concluded)

EF

7050

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33

Yield Strength:
 Ult. Strength:
 Specimen Thk: 1 - 1.003 in.
 Specimen Width: 3.1 in.
 Ref: AL006

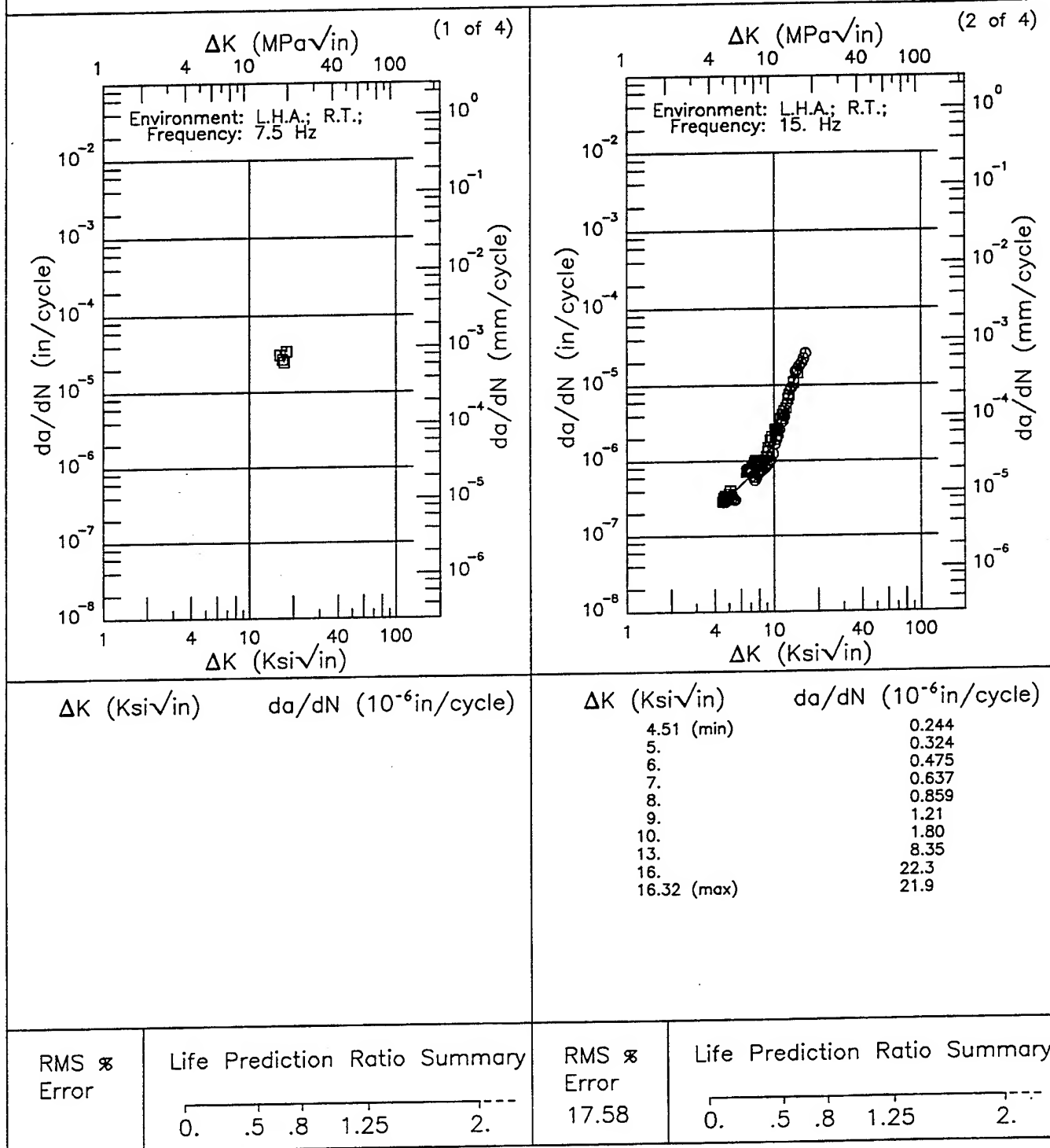
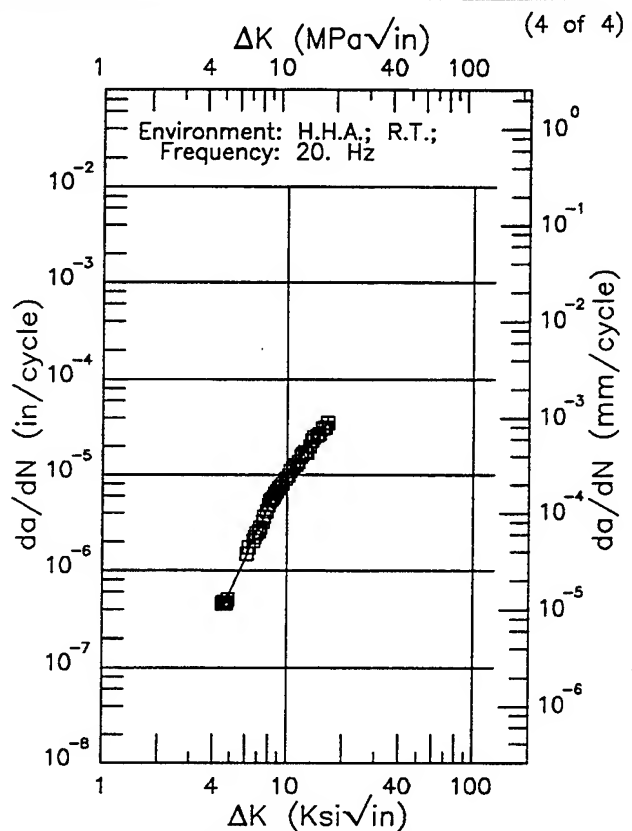
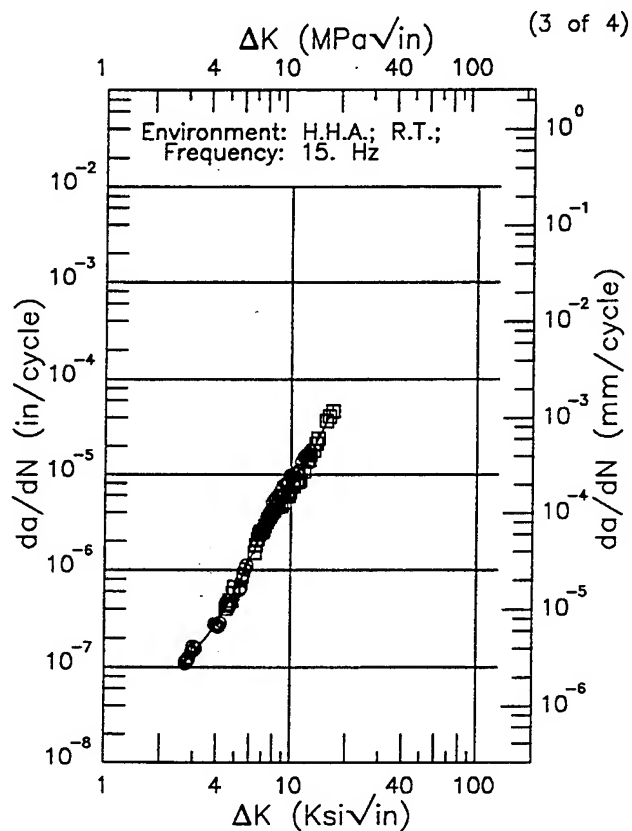


Figure 8.7.3.1.15

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33

Yield Strength:
 Ult. Strength:
 Specimen Thk: 1 - 1.003 in.
 Specimen Width: 3.1 in.
 Ref: AL006



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.72 (min)	0.127
3.	0.143
3.5	0.195
4.	0.282
5.	0.611
6.	1.27
7.	2.43
8.	4.17
9.	6.30
10.	8.44
13.	17.1
16.	40.9
16.62 (max)	43.8

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.48 (min)	0.394
5.	0.611
6.	1.36
7.	2.69
8.	4.63
9.	6.99
10.	9.58
13.	19.3
16.	31.9
16.46 (max)	33.5

RMS %
 Error
 11.94

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 5.06

Life Prediction Ratio Summary

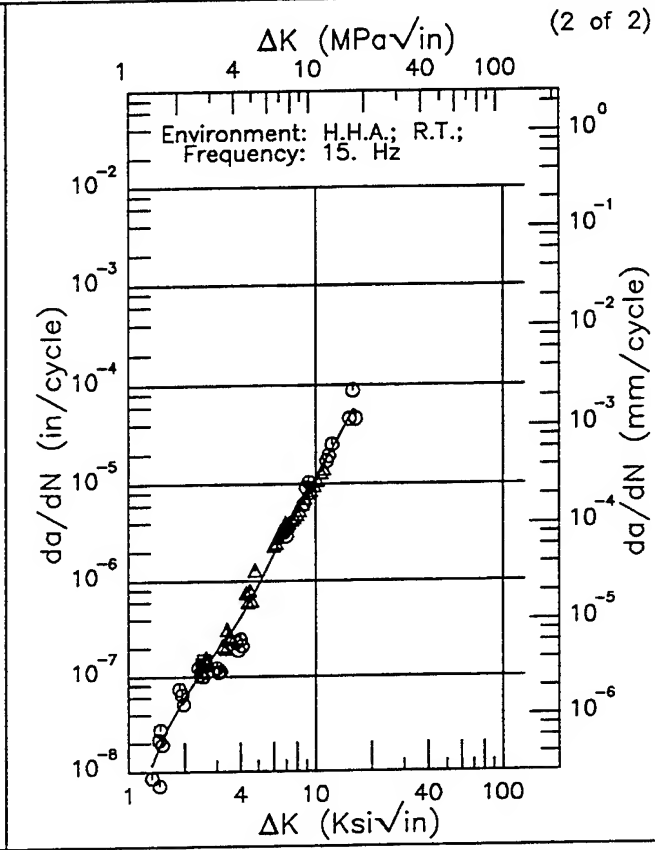
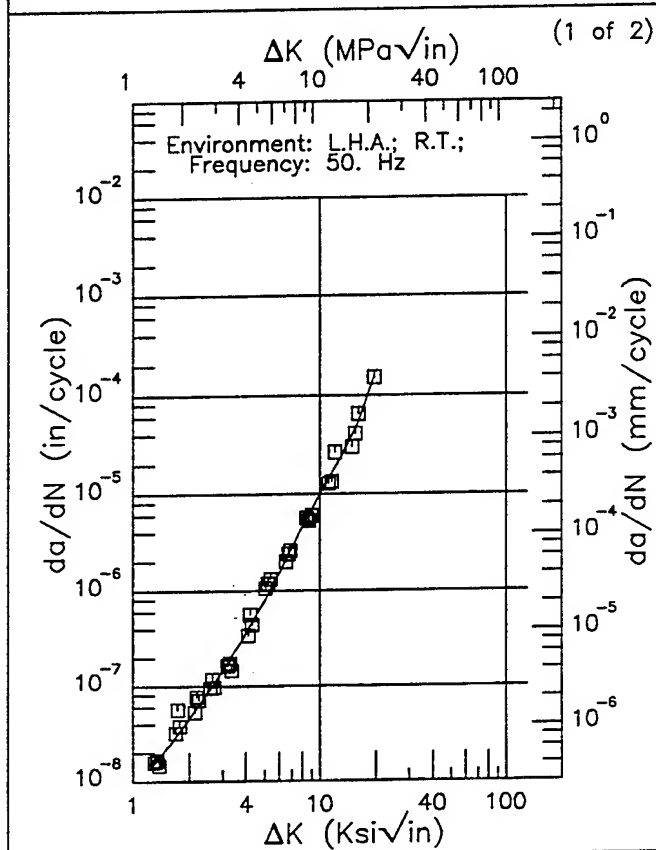
0. .5 .8 1.25 2. ---

Figure 8.7.3.1.15 (Concluded)

EF 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.5

Yield Strength:
Ult. Strength:
Specimen Thk: 0.249 in.
Specimen Width: 2.5 in.
Ref: AL006



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.30 (min)	0.0153
1.6	0.0256
2.	0.0460
2.5	0.0855
3.	0.146
3.5	0.236
4.	0.363
5.	0.779
6.	1.52
7.	2.74
8.	4.55
9.	7.04
10.	10.2
13.	23.6
16.	52.6
19.47 (max)	151.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.33 (min)	0.0117
1.6	0.0270
2.	0.0599
2.5	0.115
3.	0.187
3.5	0.284
4.	0.420
5.	0.898
6.	1.91
7.	3.69
8.	6.20
9.	8.98
10.	11.6
13.	27.6
16.	56.5
16.39 (max)	54.9

RMS % Error	Life Prediction Ratio Summary
22.09	0. .5 .8 1.25 2. ---

RMS % Error	Life Prediction Ratio Summary
25.68	0. .5 .8 1.25 2. ---

Figure 8.7.3.1.16

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Environment: L.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL006;AL004

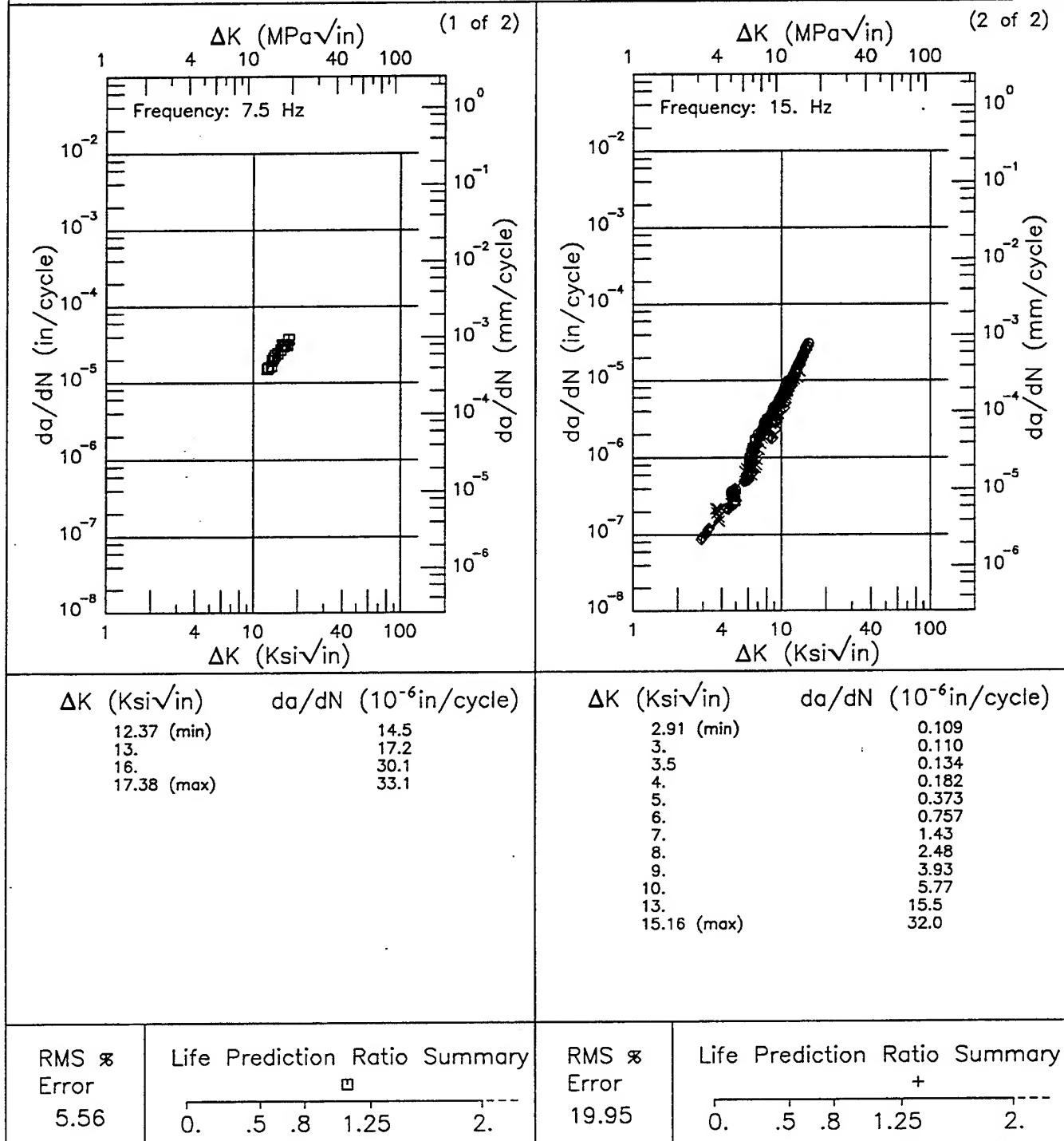


Figure 8.7.3.1.17

F 7050

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.999 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL006;AL004

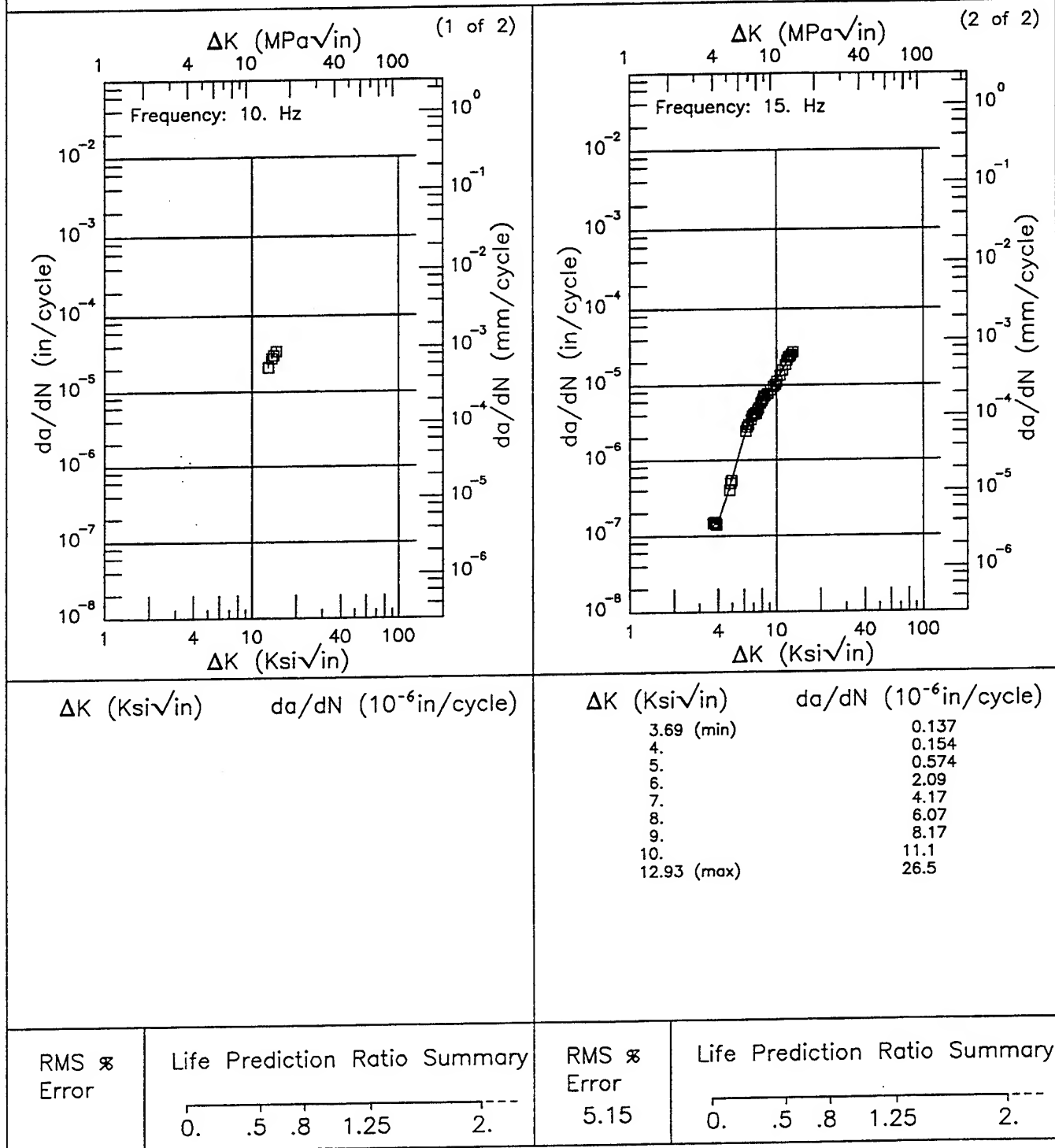


Figure 8.7.3.1.18

Condition/Ht: T73511
 Form: 1.8 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 10 - 20 Hz
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.999 - 1.004 in.
 Specimen Width: 3.805 in.
 Ref: AL006;AL004;AL007

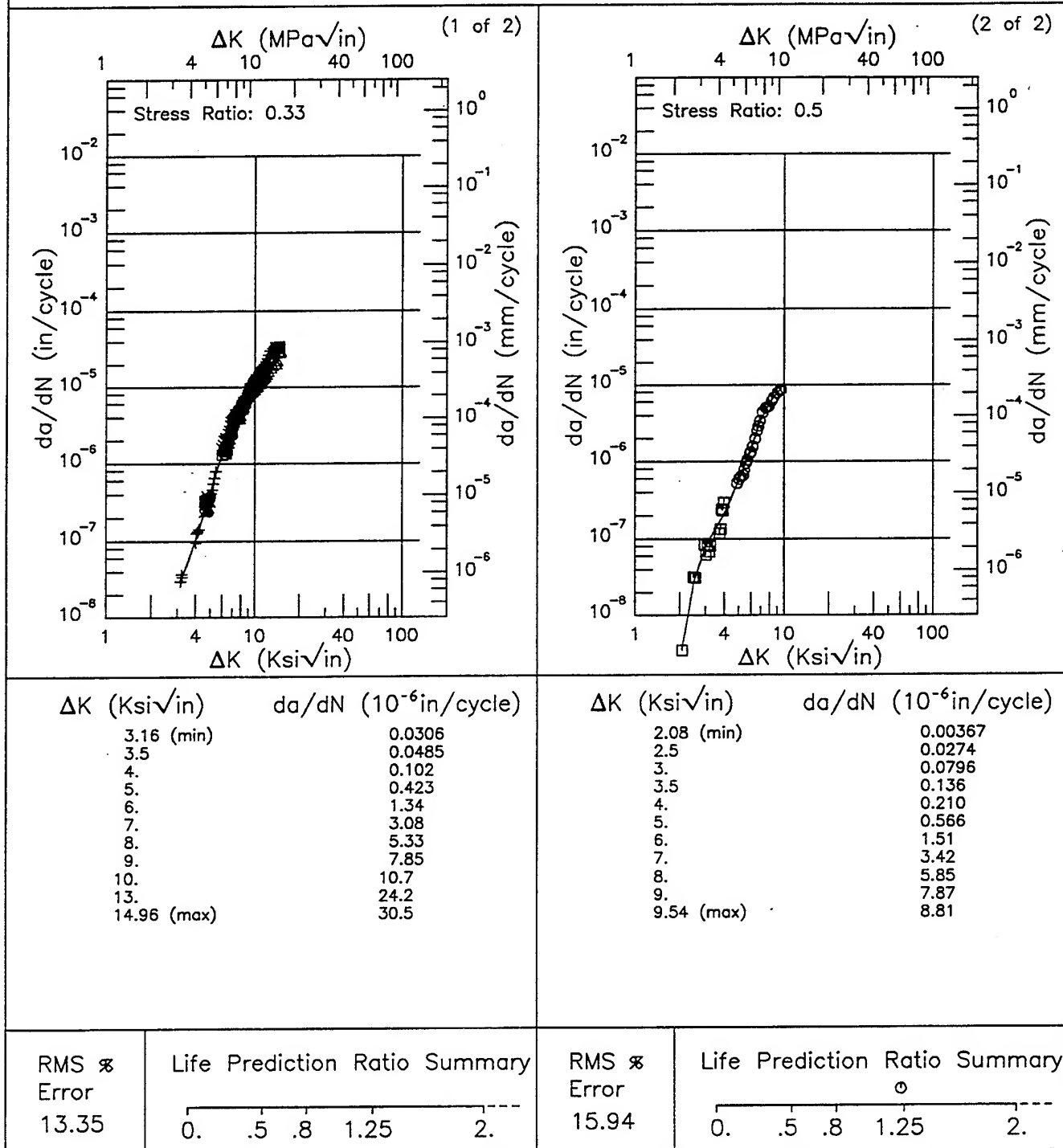


Figure 8.7.3.1.19

EF 7050

Condition/Ht: T73511
Form: 1.8 in. Extrusion
Specimen Type: CT
Orientation: T-L
Stress Ratio: 0.5

Yield Strength:
Ult. Strength:
Specimen Thk: 0.243 - 0.251 in.
Specimen Width: 2.5 in.
Ref: AL006

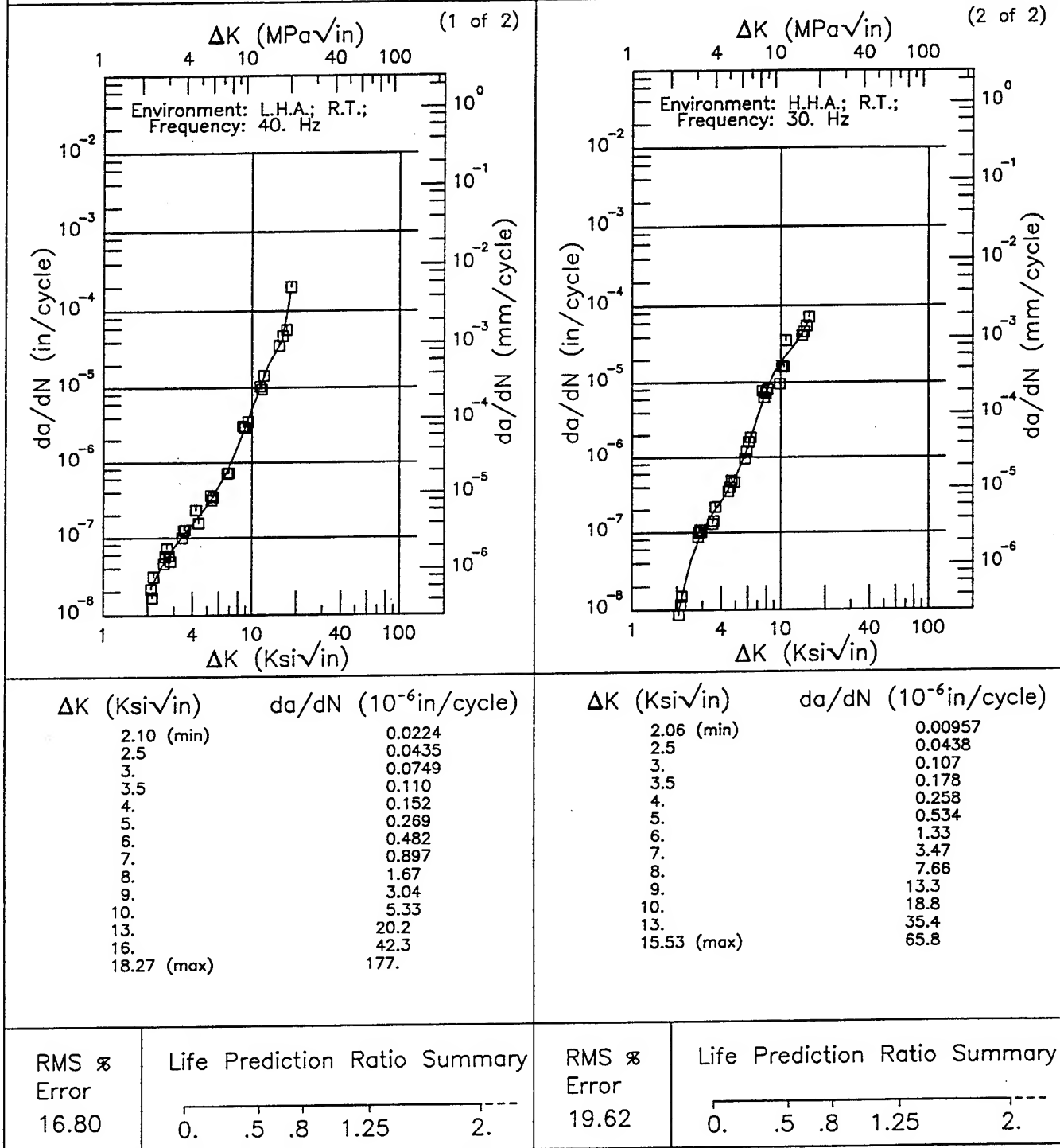


Figure 8.7.3.1.20

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 72.1 ksi
 Ult. Strength: 80.3 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

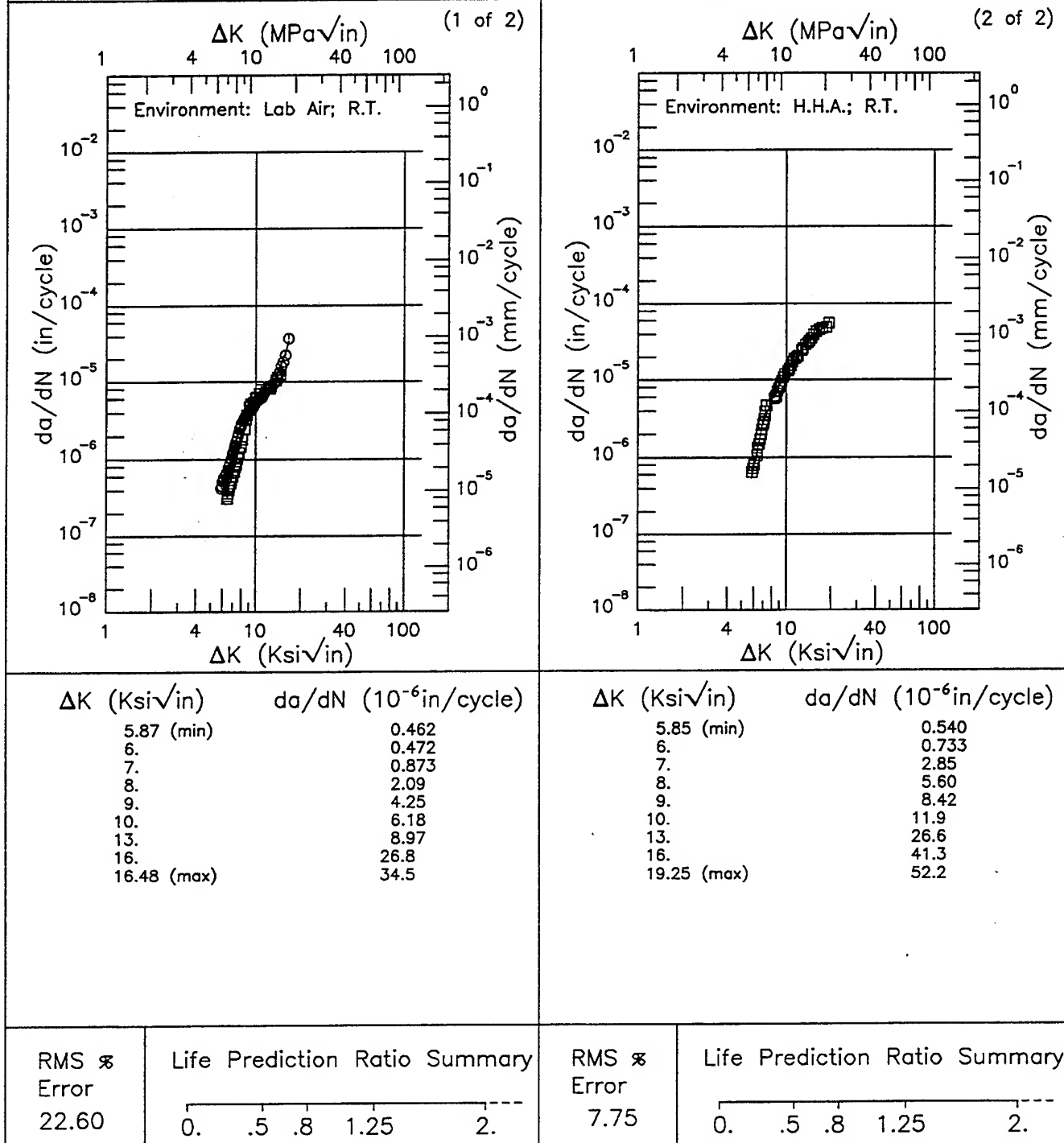
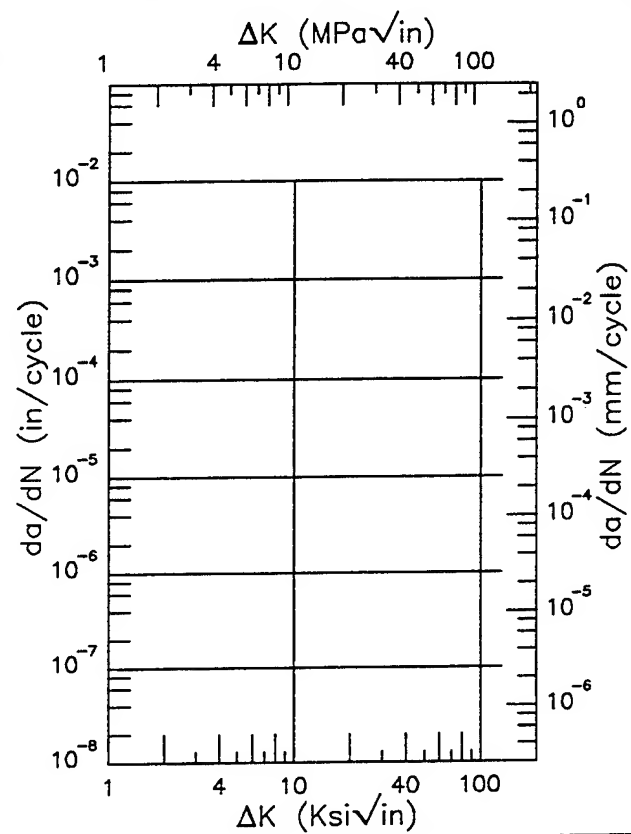
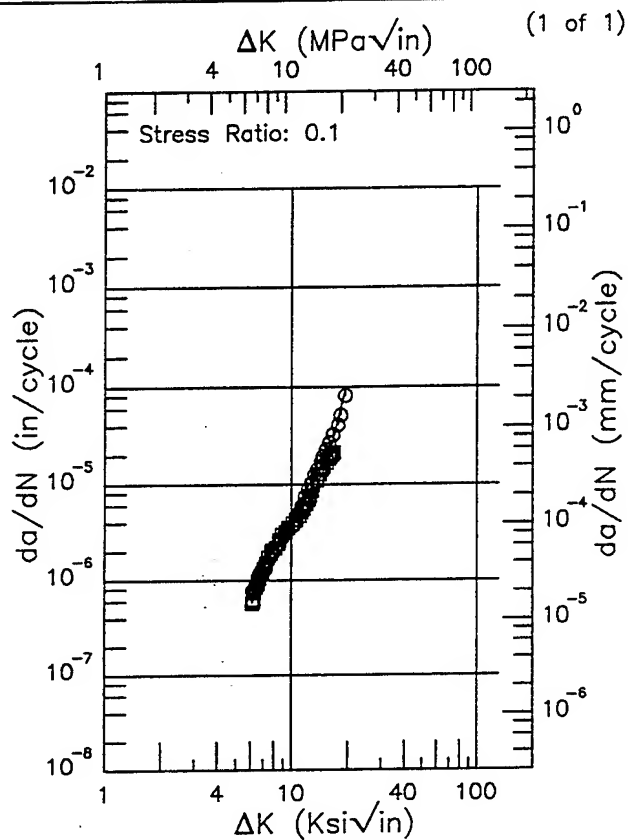


Figure 8.7.3.1.21

R 7050

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 66.6 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
6.09 (min)	0.626
7.	1.32
8.	2.08
9.	2.83
10.	3.74
13.	9.89
16.	21.7
19.26 (max)	88.1

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 10.97

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.22

Condition/Ht: T7351X
 Form: 0.91 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.899 - 0.9 in.
 Specimen Width: 3.1 in.
 Ref: AL007

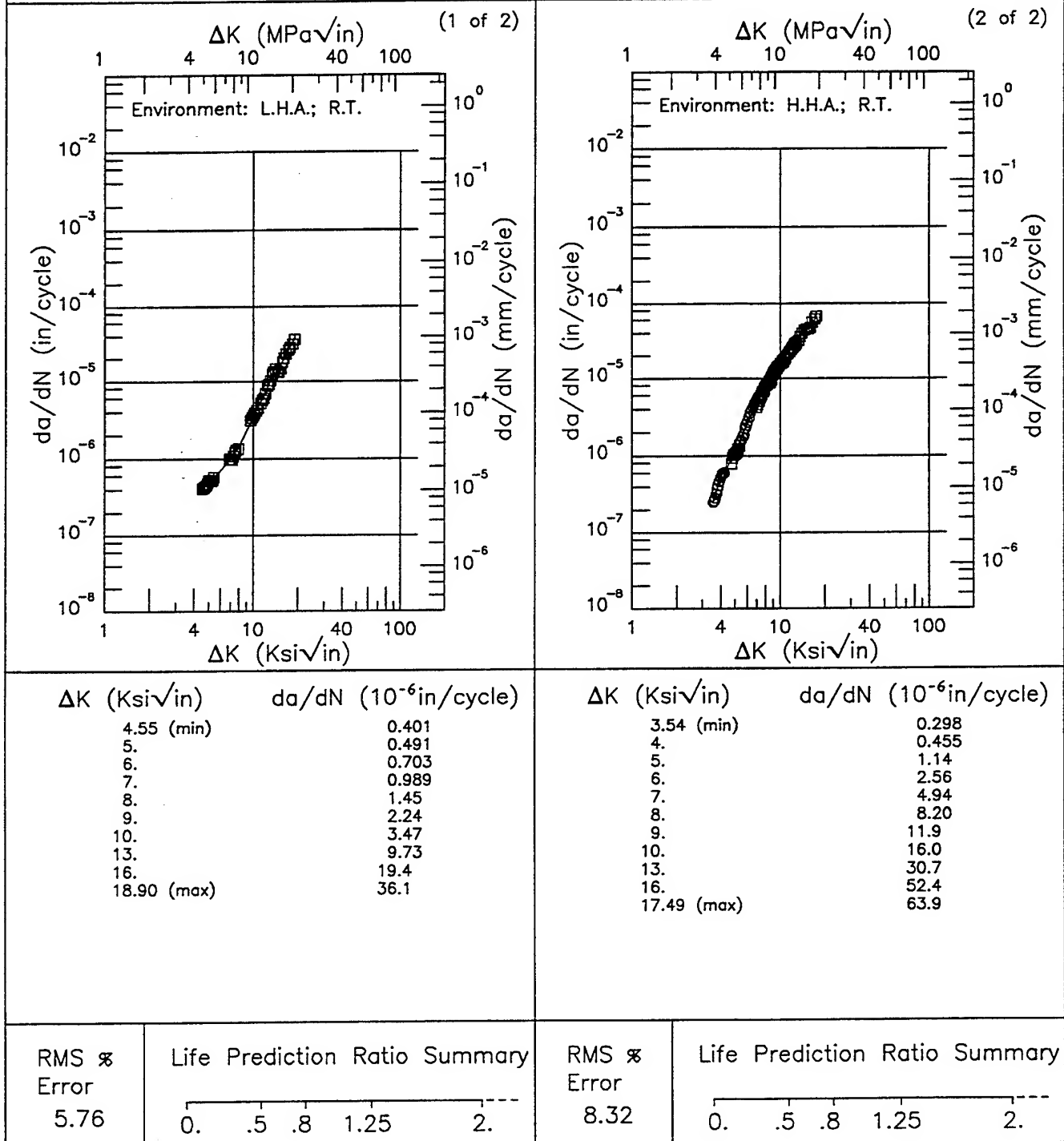
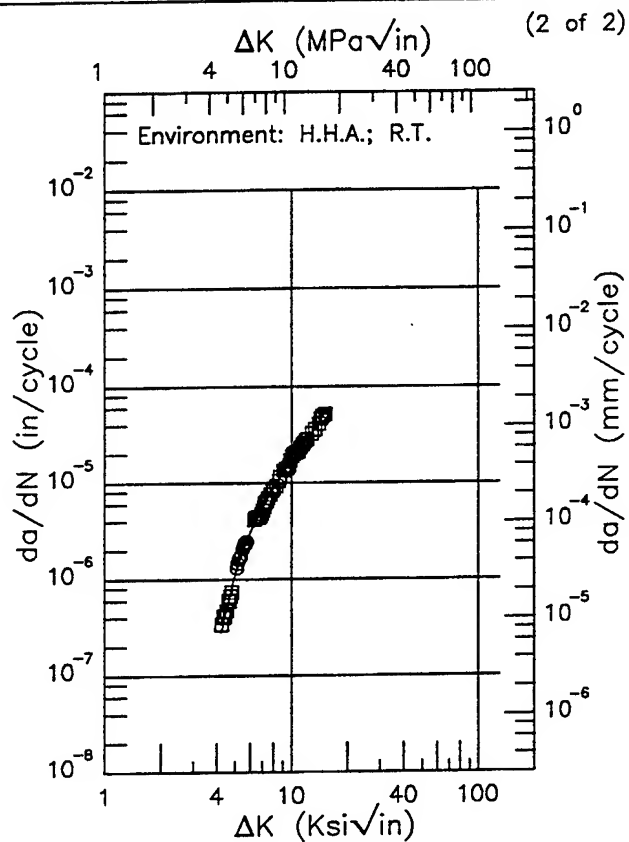
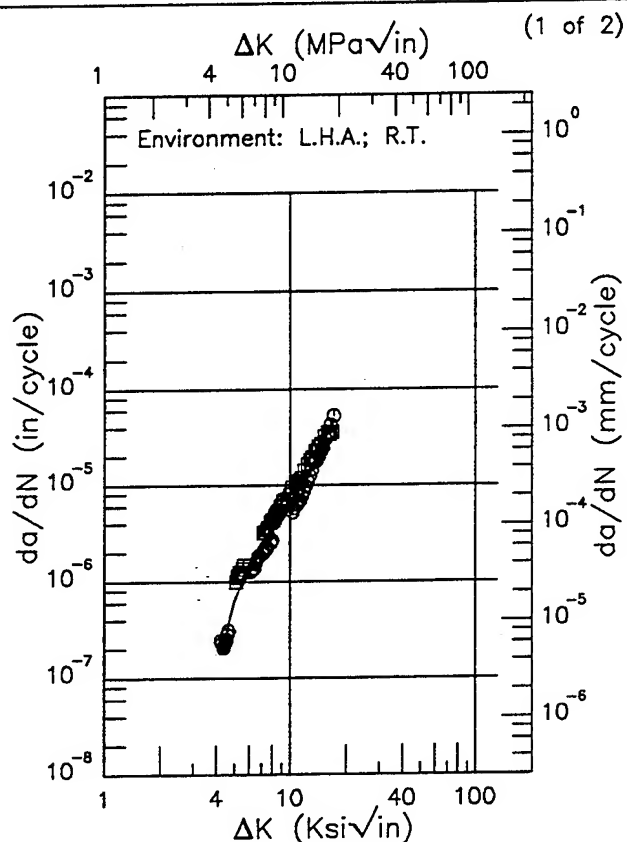


Figure 8.7.3.1.23

E 7050
 Condition/Ht: T7351X
 Form: 0.91 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.899 - 0.9 in.
 Specimen Width: 3.805 in.
 Ref: AL007



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.22 (min)	0.180
5.	0.627
6.	1.53
7.	2.58
8.	3.73
9.	5.11
10.	6.90
13.	15.9
16.	34.8
17.08 (max)	46.2

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.24 (min)	0.283
5.	1.10
6.	3.01
7.	5.52
8.	8.61
9.	12.6
10.	17.4
13.	33.5
15.06 (max)	53.5

RMS $\%$
 Error
 21.66

Life Prediction Ratio Summary

RMS $\%$
 Error
 6.80

Life Prediction Ratio Summary

Figure 8.7.3.1.24

Condition/Ht: T7351X
 Form: 5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.99 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL007

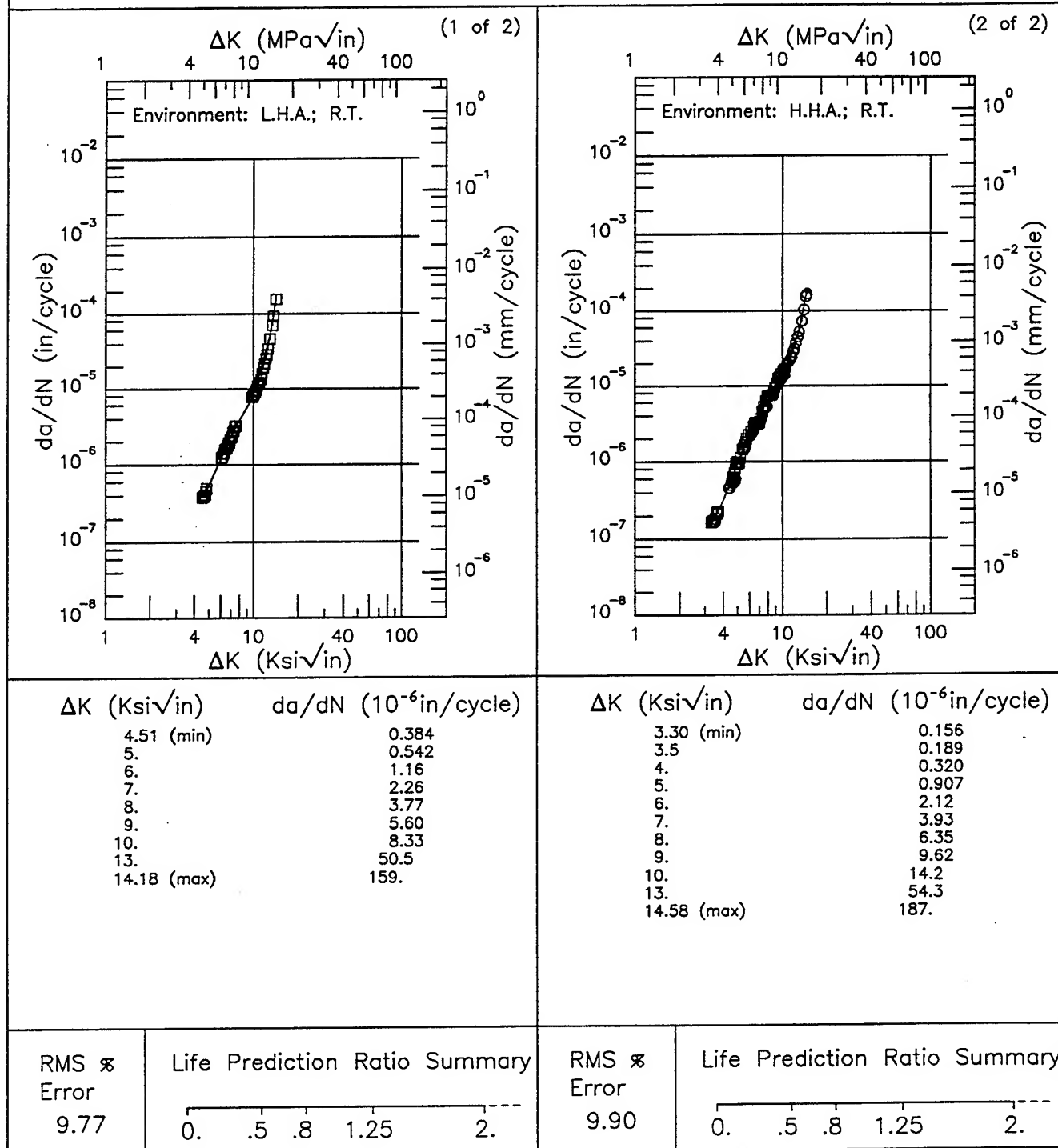
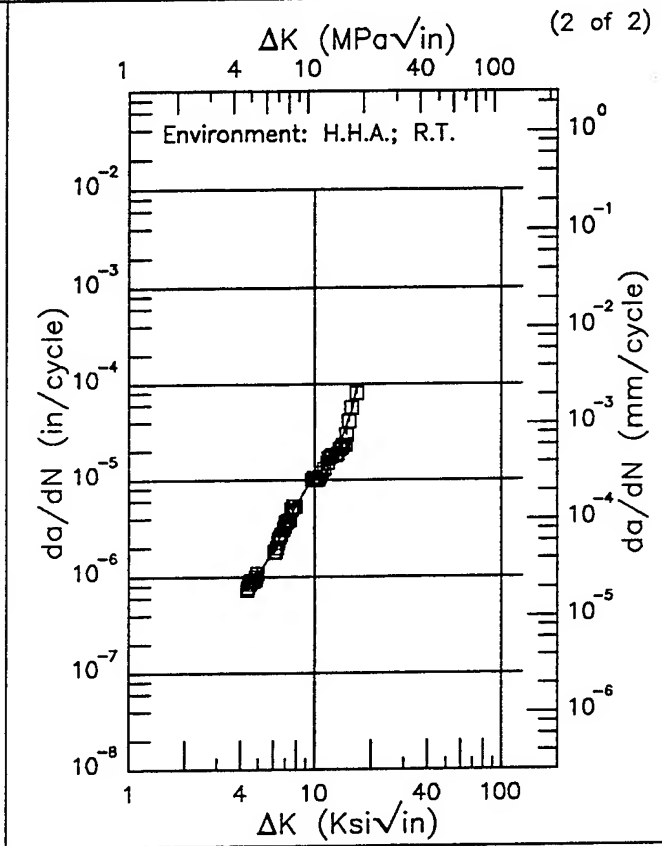
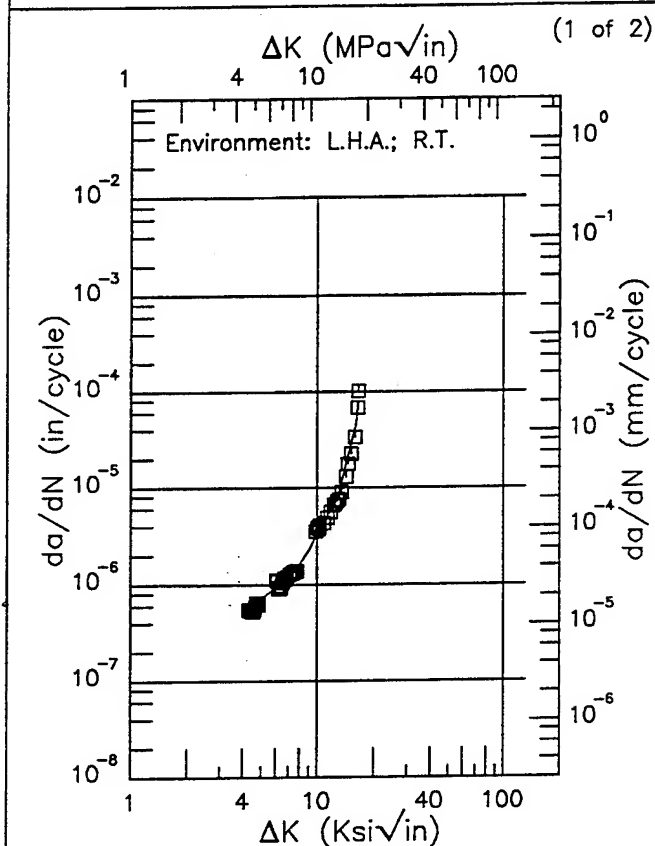


Figure 8.7.3.1.25

E | 7050 |
 Condition/Ht: T7351X
 Form: 5 in. Extrusion
 Specimen Type: CT
 Orientation: S-T
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL007



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.31 (min)	0.465
5.	0.697
6.	0.955
7.	1.21
8.	1.60
9.	2.27
10.	3.33
13.	8.42
16.	46.6
16.36 (max)	68.8

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.33 (min)	0.820
5.	1.06
6.	1.84
7.	3.27
8.	5.39
9.	8.04
10.	10.8
13.	17.9
16.	56.1
16.72 (max)	87.9

RMS \times
 Error
 11.42

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

RMS \times
 Error
 9.40

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

Figure 8.7.3.1.26

Condition/Ht: T736
 Form: 1.5 - 3 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength: 63.6 ksi
 Ult. Strength: 72.2 ksi
 Specimen Thk: 1.002 in.
 Specimen Width: 7.4 in.
 Ref: 91332;NC002

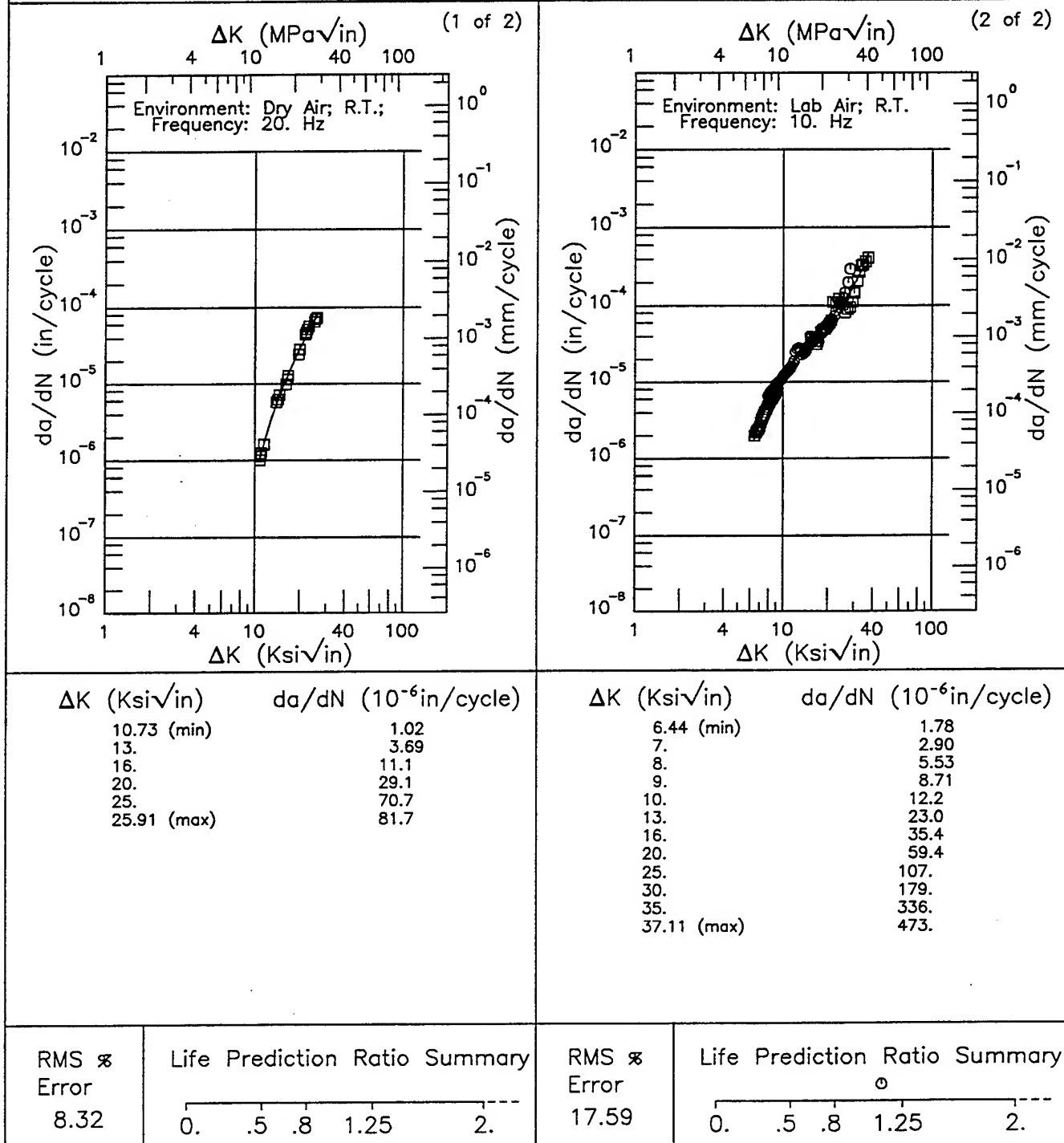
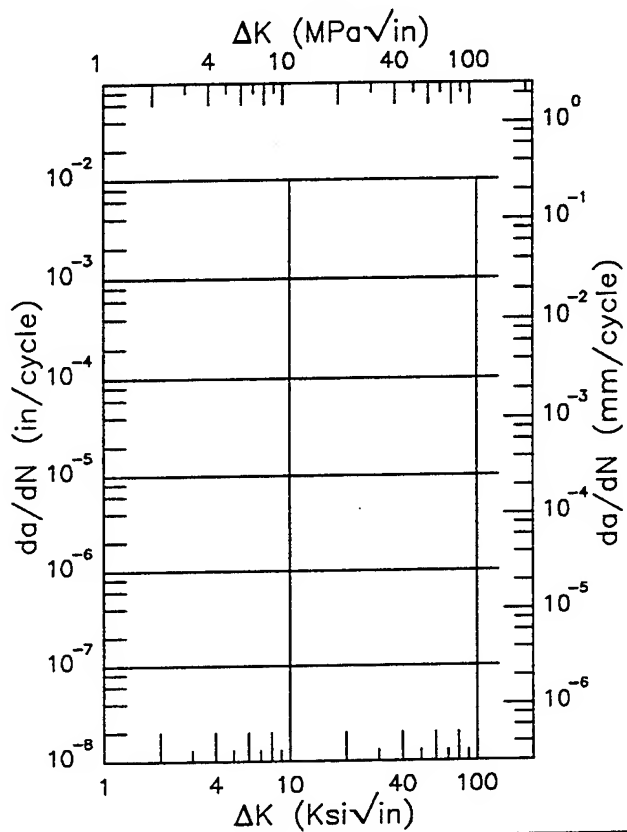
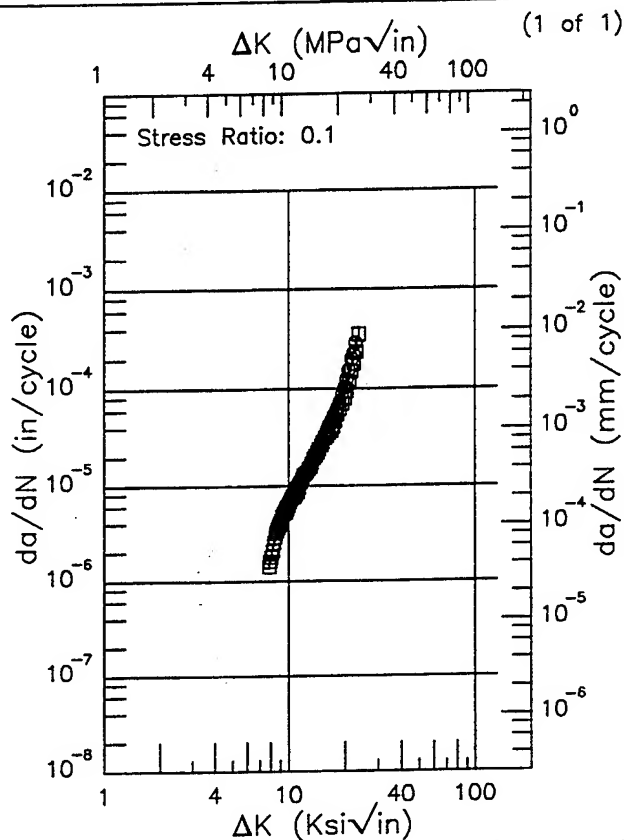


Figure 8.7.3.1.27

R 7050
 Condition/Ht: T736
 Form: 3 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 62.2 ksi
 Ult. Strength: 71.5 ksi
 Specimen Thk: 1.002 in.
 Specimen Width: 7.4 in.
 Ref: NC002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.83 (min)	1.42
8.	1.75
9.	4.23
10.	6.94
13.	16.7
16.	35.8
20.	98.6
23.63 (max)	346.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 8.82

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.28

Condition/Ht: T736
 Form: 1.5 in. Forging
 Specimen Type:
 Orientation:
 Frequency: 1 Hz
 Environment: 3.5% NaCl; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 91332

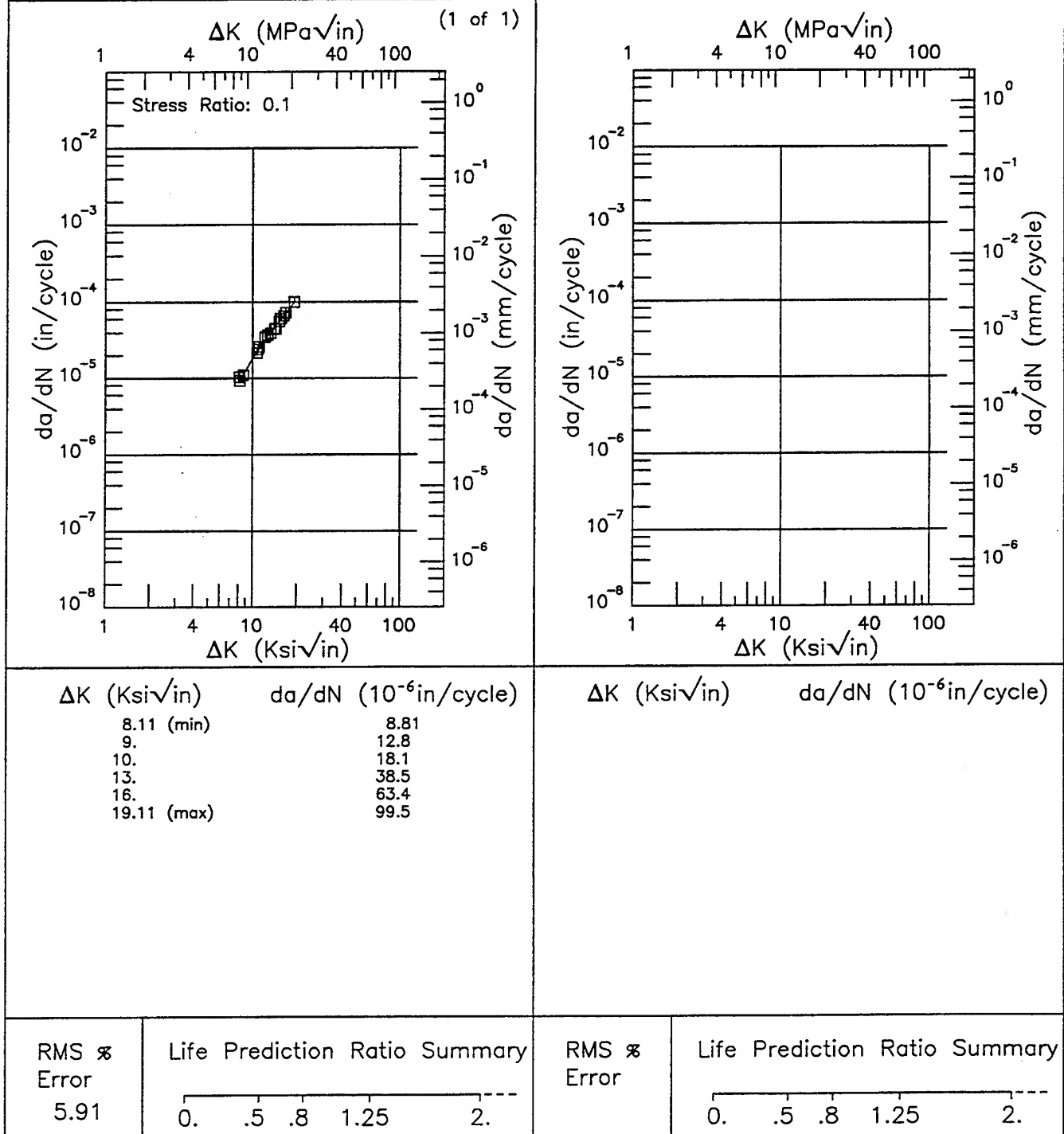


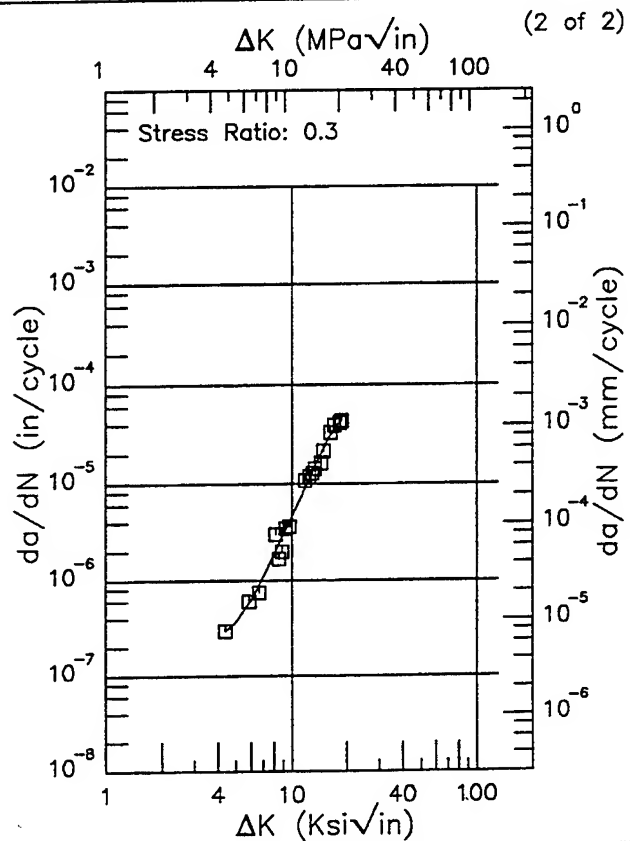
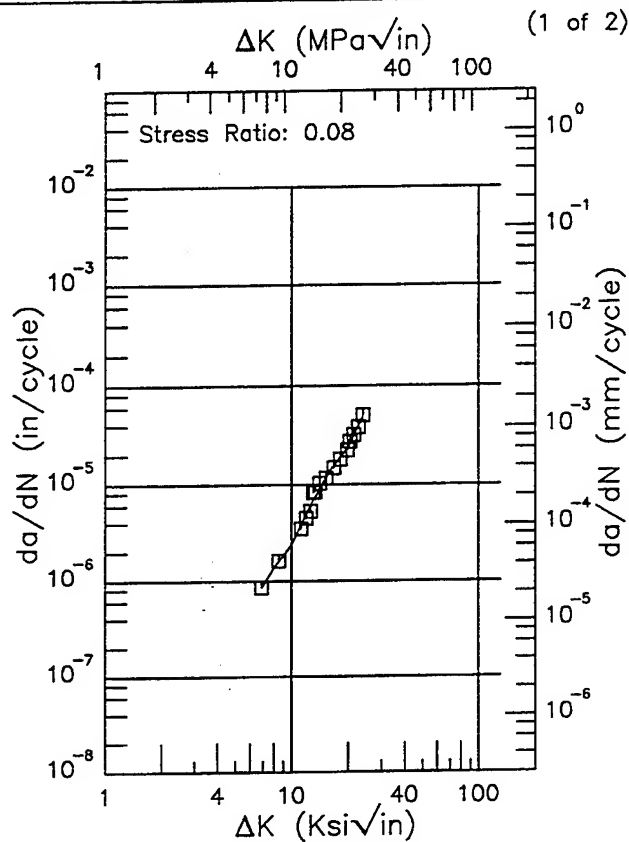
Figure 8.7.3.1.29

R

7050

Condition/Ht: T73651
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 65 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.992 in.
 Specimen Width: 6 in.
 Ref: 85837



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.89 (min)	0.851
7.	0.905
8.	1.38
9.	1.84
10.	2.41
13.	6.80
16.	14.1
20.	23.9
23.68 (max)	48.5

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.39 (min)	0.295
5.	0.368
6.	0.615
7.	1.08
8.	1.86
9.	3.04
10.	4.69
13.	13.3
16.	29.2
18.76 (max)	45.8

RMS %
 Error
 8.85

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 17.97

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.30

Condition/Ht: T73651
 Form: 1.13 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: DRY AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 91332

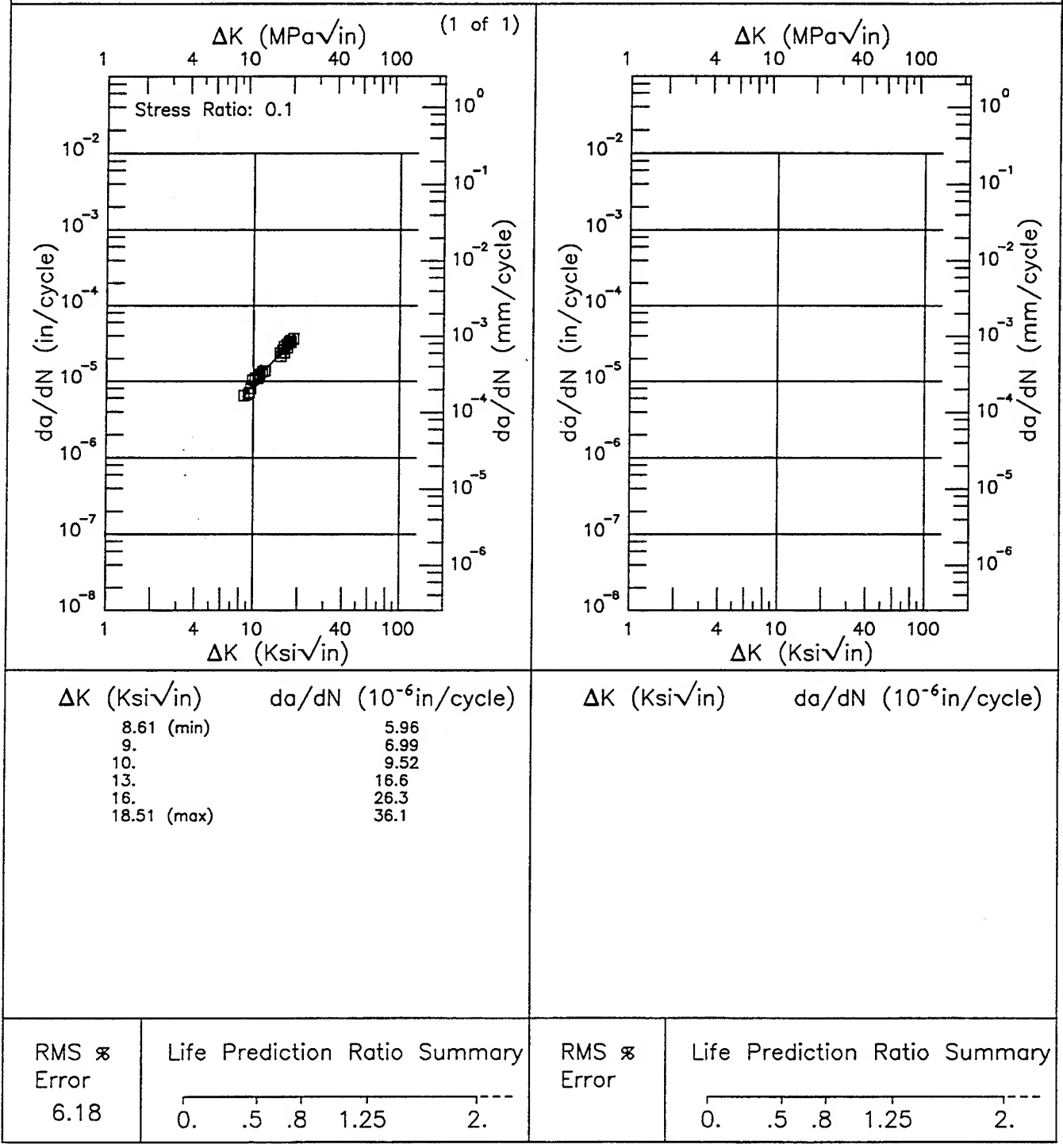
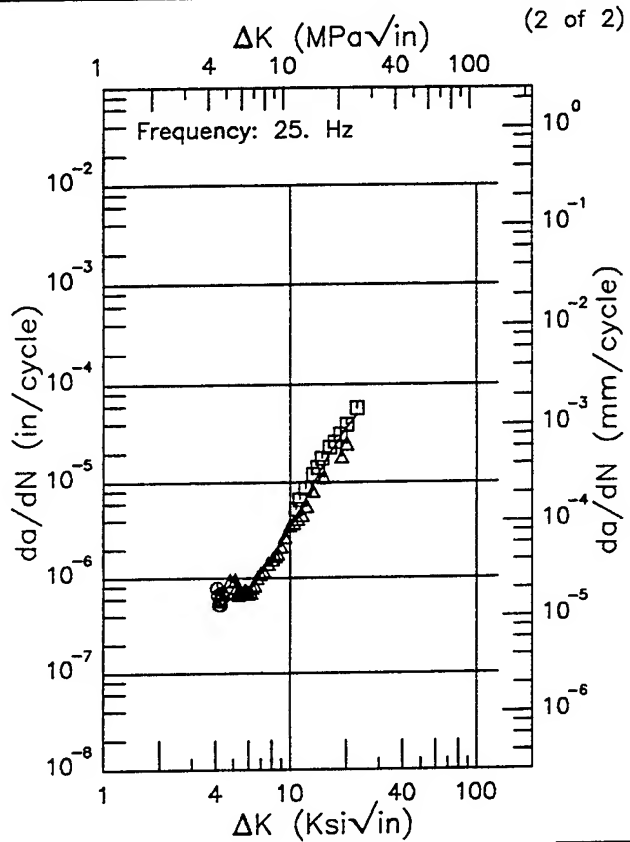
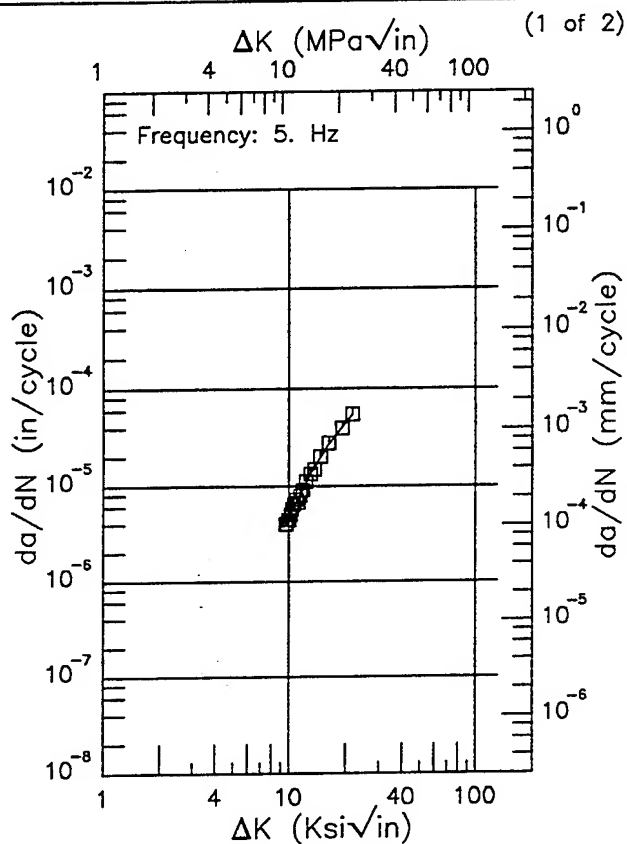


Figure 8.7.3.1.31

F | 7050 |
 Condition/Ht: T73651
 Form: 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: LAB AIR; RT

Yield Strength: 70 ksi
 Ult. Strength: 80.5 ksi
 Specimen Thk: 0.75 in.
 Specimen Width: 1.5 in.
 Ref: 88174



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
9.58 (min)	3.96
10.	4.67
13.	13.2
16.	26.4
20.	44.9
21.56 (max)	54.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.07 (min)	0.759
5.	0.678
6.	0.809
7.	1.11
8.	1.59
9.	2.31
10.	3.34
13.	8.79
16.	18.5
20.	36.3
22.74 (max)	48.6

RMS $\%$
 Error
 4.67

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS $\%$
 Error
 18.18

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.32

Condition/Ht: T73651
 Form: 3.15 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: LAB AIR; RT

Yield Strength: 65.6 ksi
 Ult. Strength: 76.6 ksi
 Specimen Thk: 1.003 - 1.005 in.
 Specimen Width: 7.4 in.
 Ref: NC002

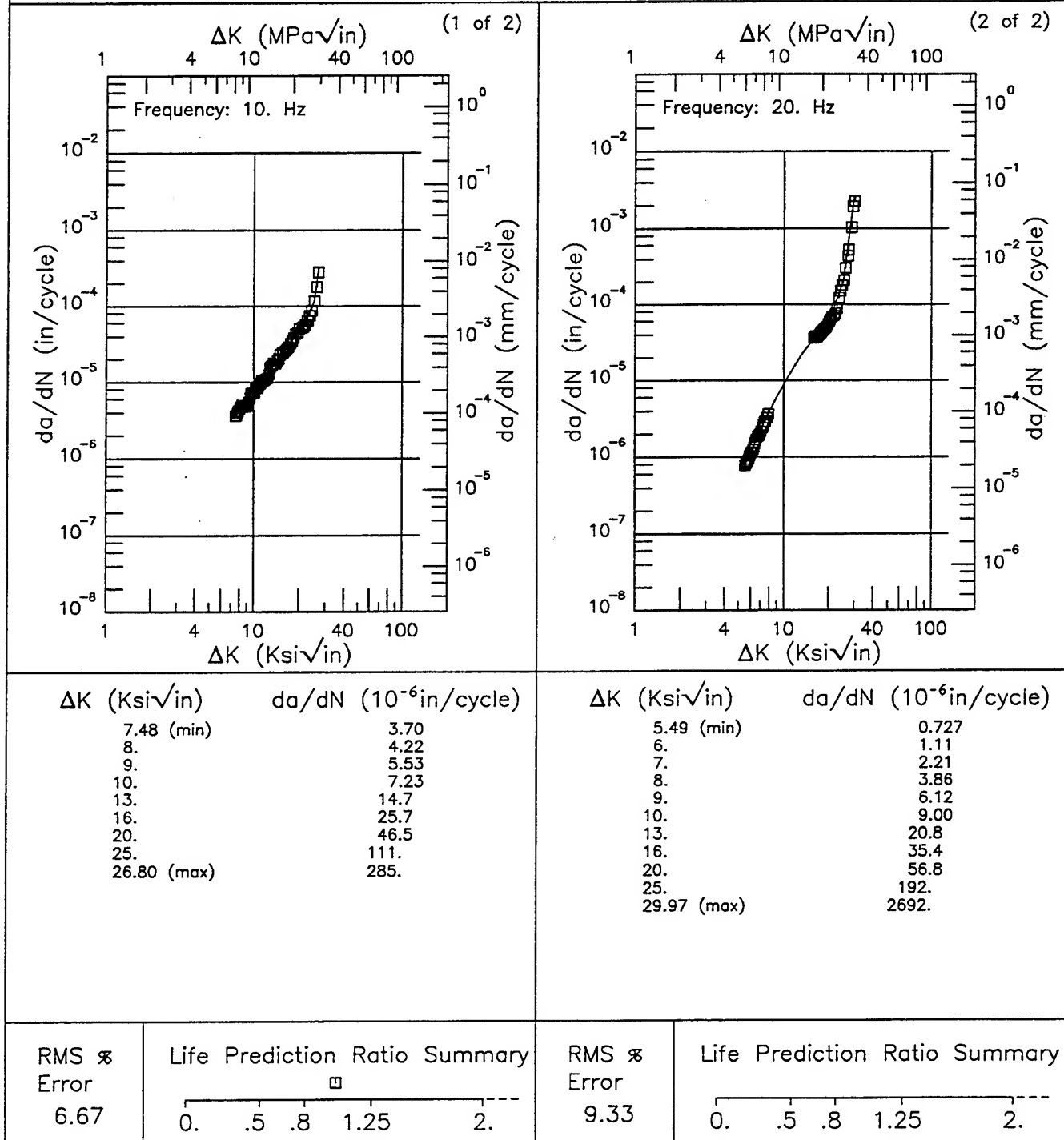
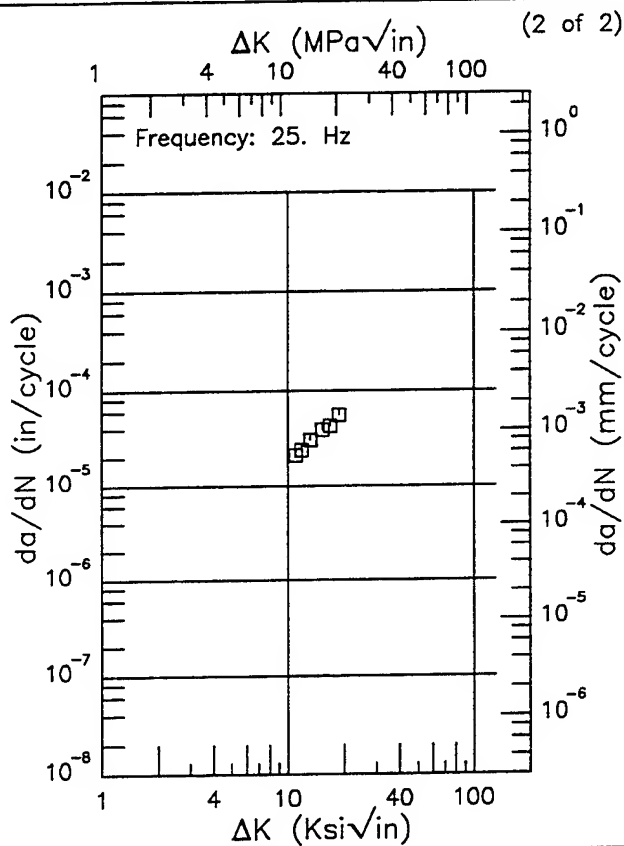
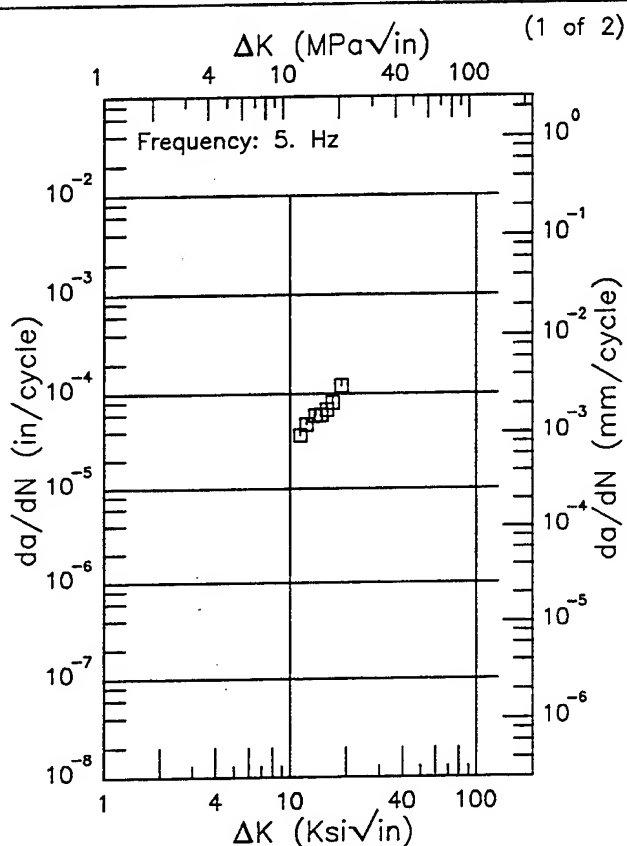


Figure 8.7.3.1.33

F 7050

Condition/Ht: T73651
 Form: 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: 3.5% NACL; RT

Yield Strength: 70 ksi
 Ult. Strength: 80.5 ksi
 Specimen Thk: 0.75 in.
 Specimen Width: 1.5 in.
 Ref: 88174



ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.34

Condition/Ht: T73651
 Form: 3.15 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 1 - 10 Hz

Yield Strength: 65.6 ksi
 Ult. Strength: 76.6 ksi
 Specimen Thk: 1.004 - 1.007 in.
 Specimen Width: 7.4 in.
 Ref: NC002

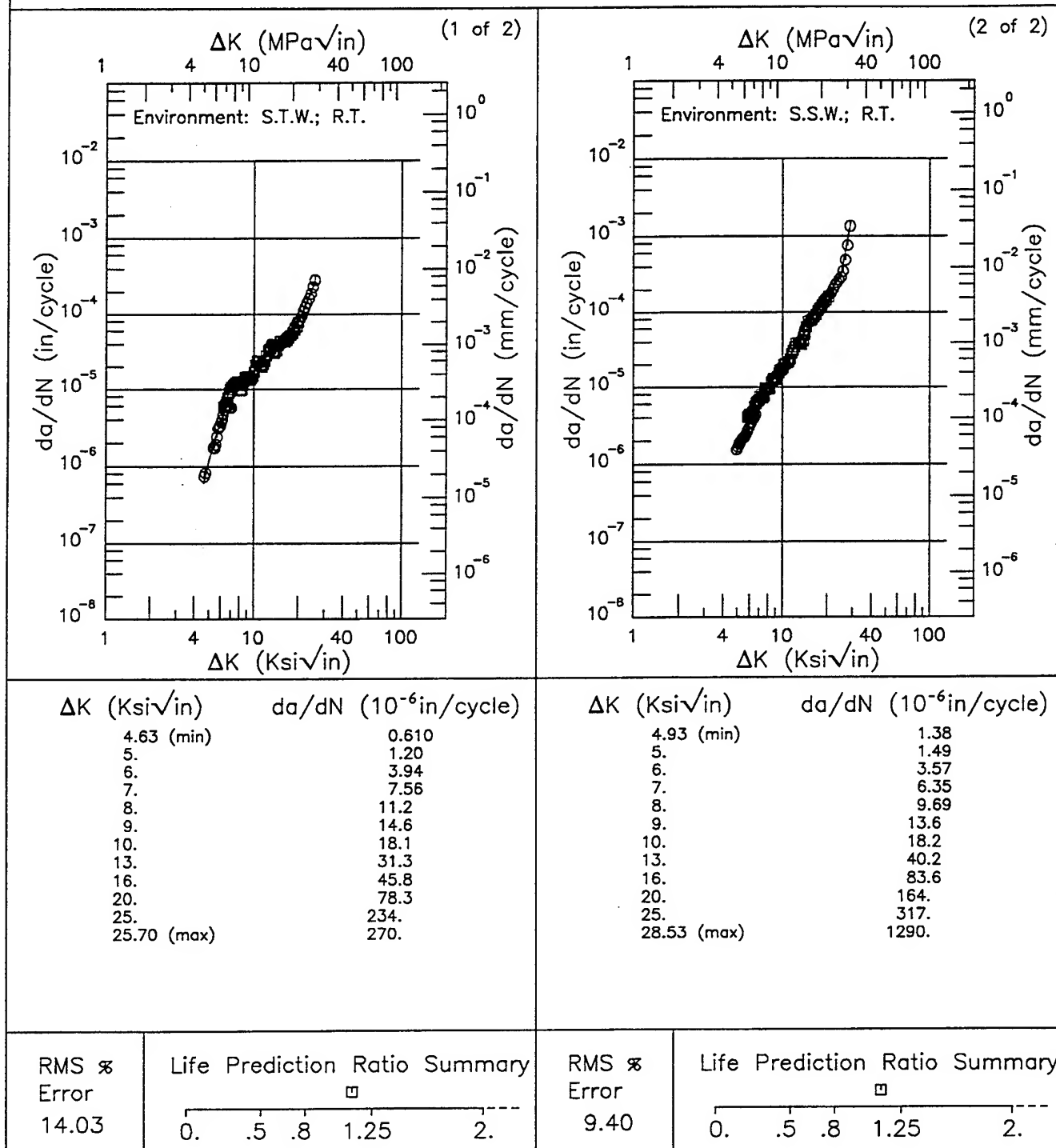


Figure 8.7.3.1.35

E 7050

Condition/Ht: T73651

Form: 6 in. Plate

Specimen Type: CT

Orientation: L-T

Stress Ratio: 0.33

Frequency: 18.3 Hz

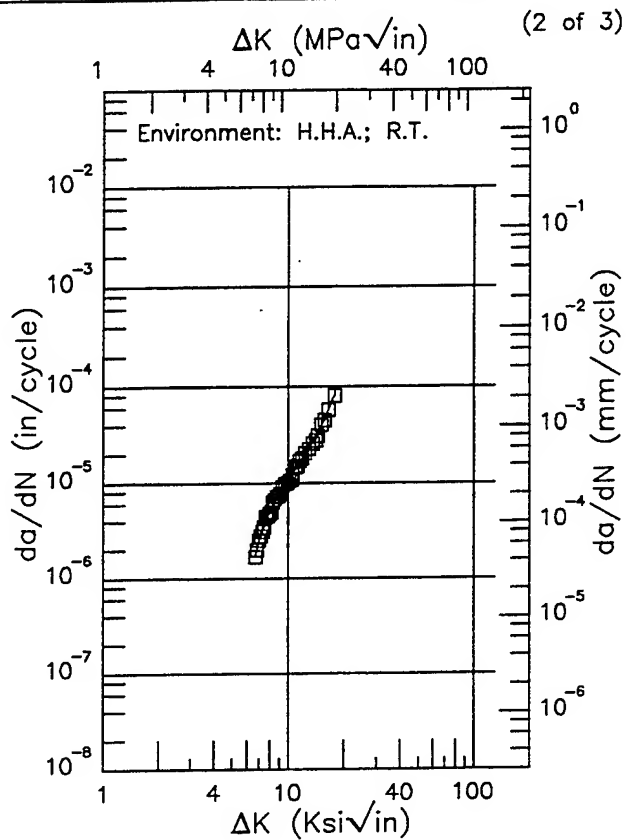
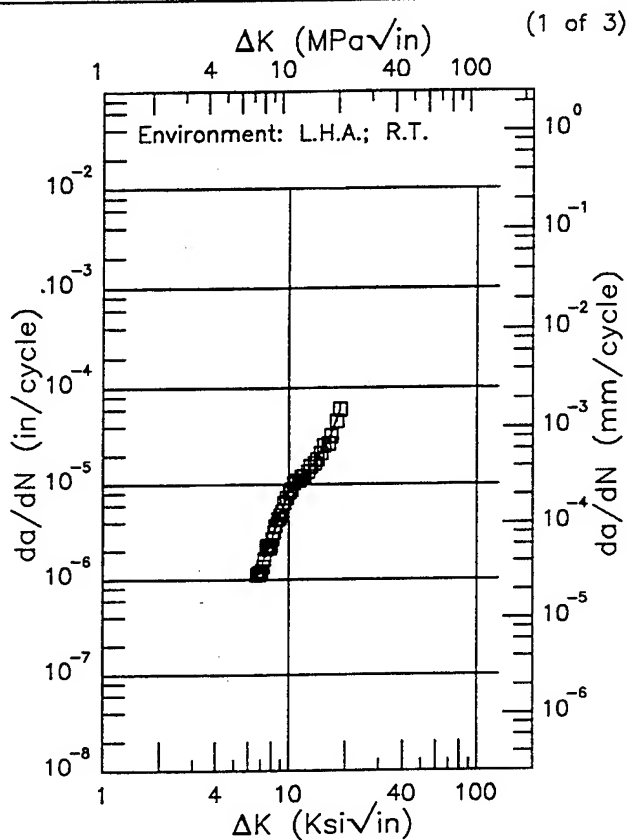
Yield Strength: 60.9 ksi

Ult. Strength: 69.7 ksi

Specimen Thk: 0.998 - 1 in.

Specimen Width: 3.801 - 3.805 in.

Ref: AL013

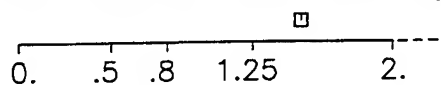


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.65 (min)	1.05
7.	1.27
8.	2.56
9.	5.04
10.	8.06
13.	15.0
16.	27.2
18.65 (max)	59.9

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.66 (min)	1.75
7.	2.49
8.	5.11
9.	7.93
10.	10.8
13.	22.9
16.	48.5
17.78 (max)	81.0

RMS %
Error
6.60

Life Prediction Ratio Summary



RMS %
Error
5.33

Life Prediction Ratio Summary

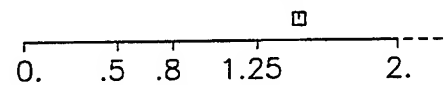


Figure 8.7.3.1.36

Condition/Ht: T73651

Form: 6 in. Plate

Specimen Type: CT

Orientation: L-T

Stress Ratio: 0.33

Frequency: 18.3 Hz

Yield Strength: 60.9 ksi

Ult. Strength: 69.7 ksi

Specimen Thk: 0.998 - 1 in.

Specimen Width: 3.801 - 3.805 in.

Ref: AL013

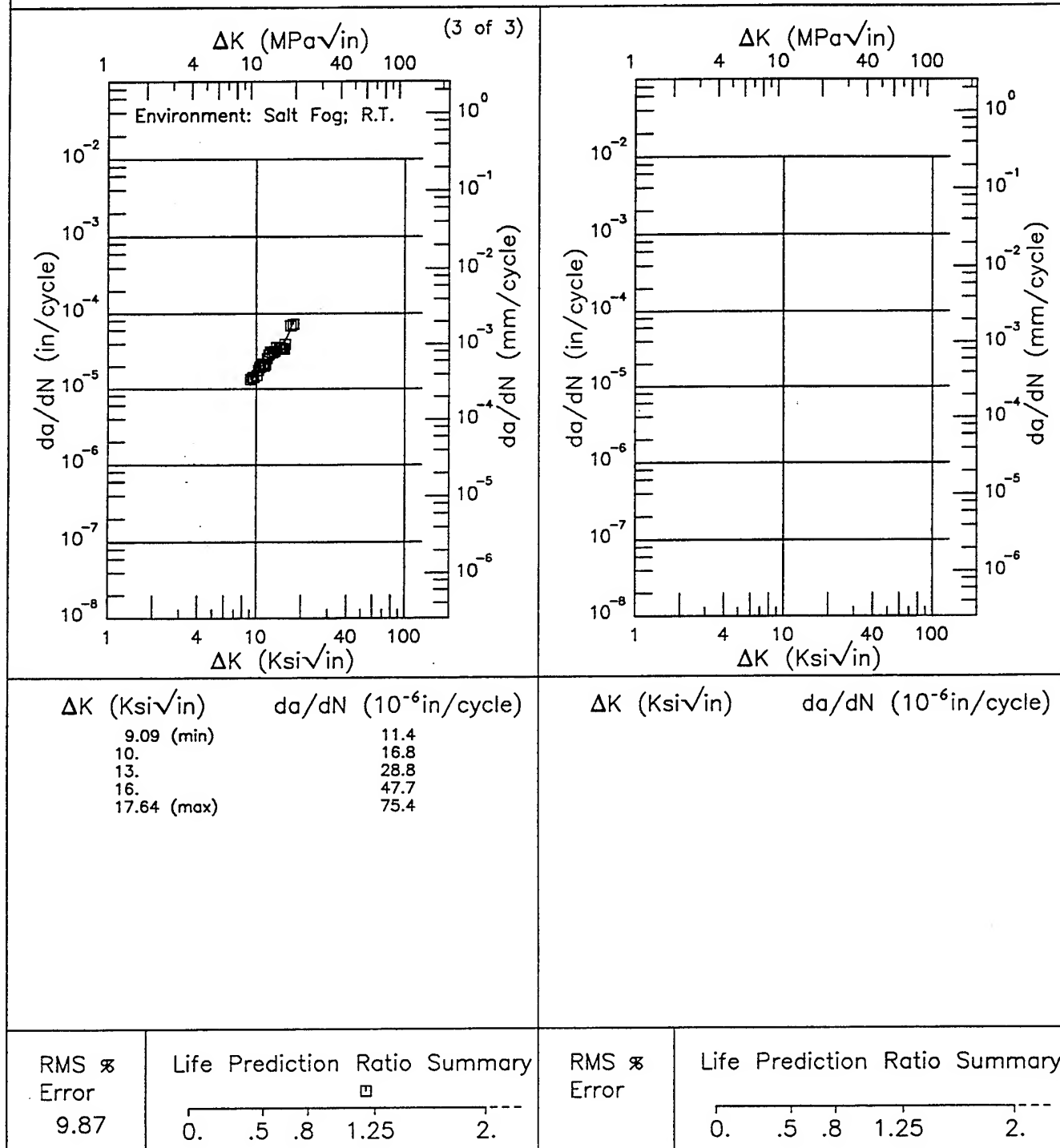
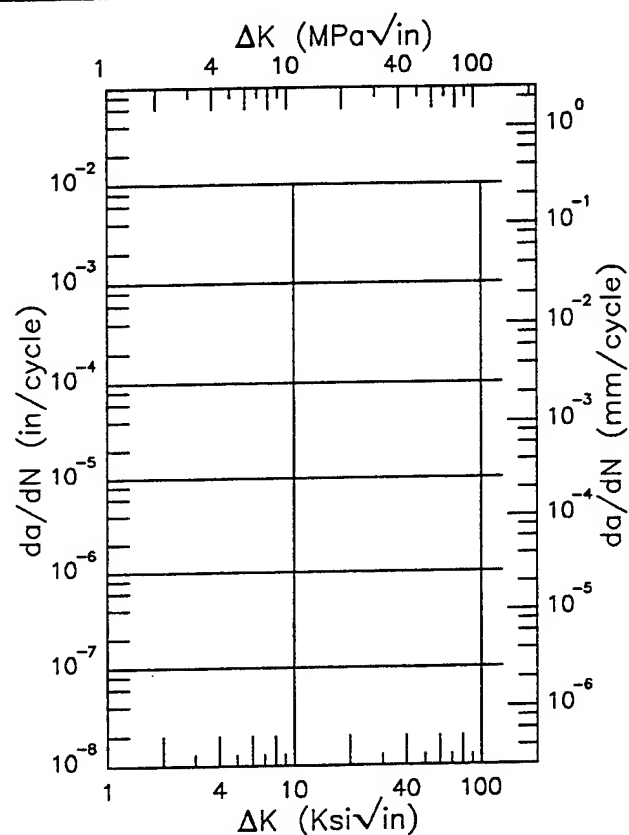
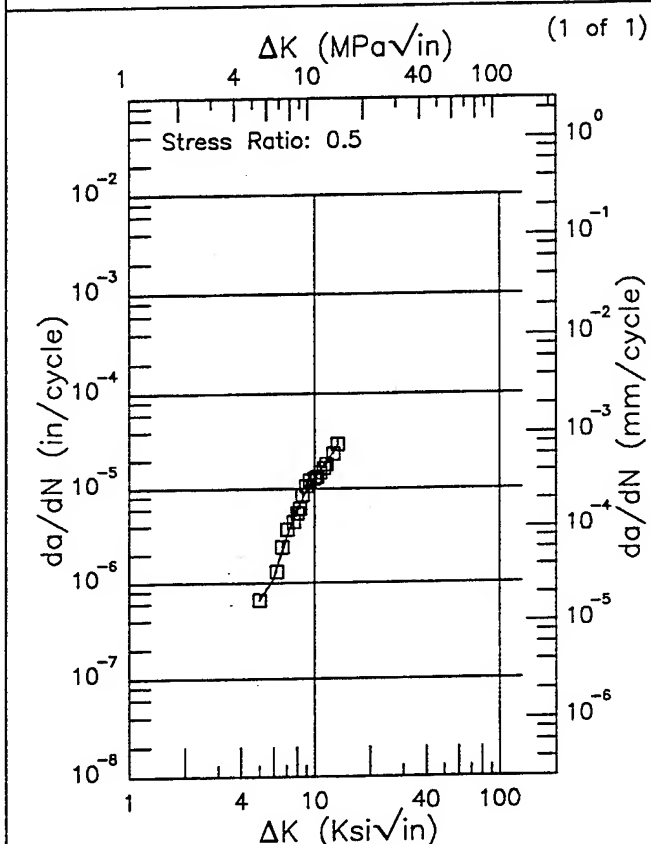


Figure 8.7.3.1.36 (Concluded)

R 7050

Condition/Ht: T73651
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 65 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.993 in.
 Specimen Width: 6 in.
 Ref: 85837



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.01 (min)	0.648
6.	1.11
7.	2.98
8.	6.08
9.	9.58
10.	13.0
13.	26.1
13.34 (max)	29.8

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS \times
 Error
 8.22

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS \times
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.37

Condition/Ht: T73651
 Form: 6 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Frequency: 18.3 Hz
 Environment: SALT FOG; RT

Yield Strength: 59.1 ksi
 Ult. Strength: 70.5 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.801 in.
 Ref: AL013

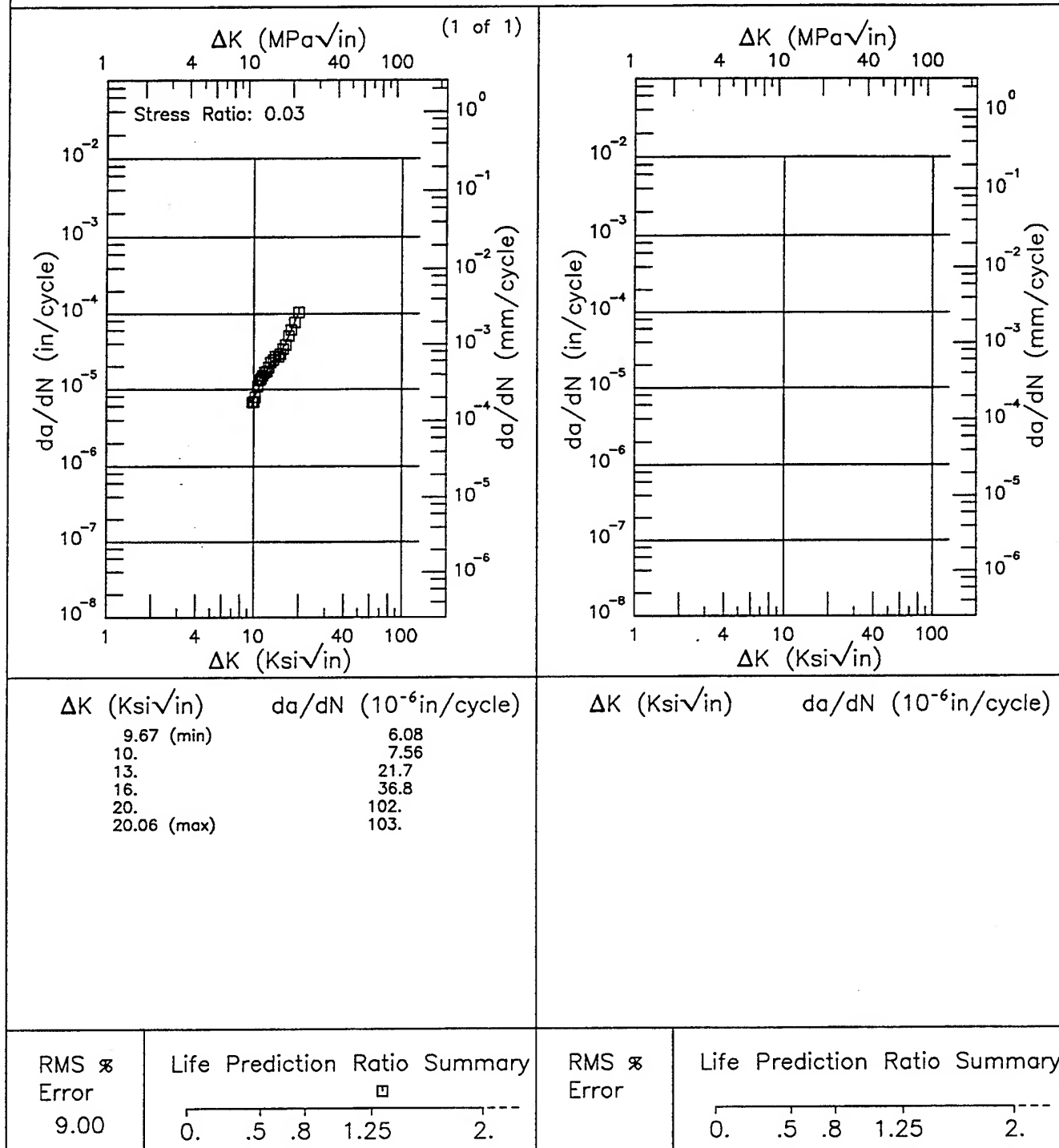
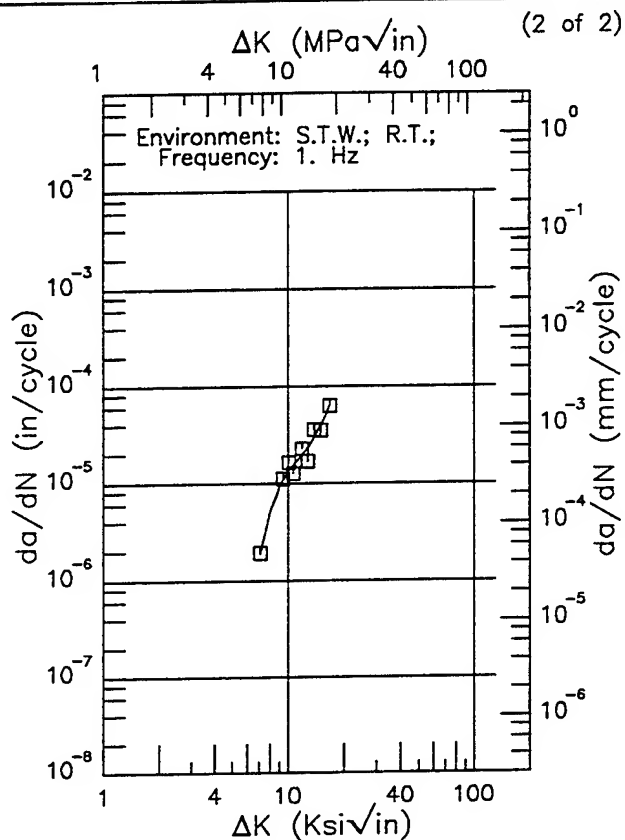
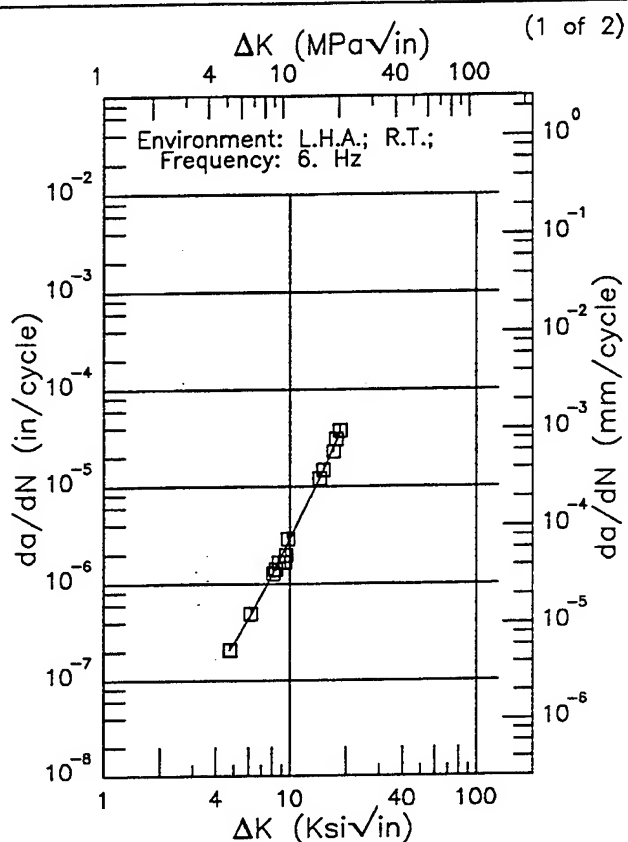


Figure 8.7.3.1.38

EF 7050

Condition/Ht: T73651
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.08

Yield Strength: 65 - 66 ksi
 Ult. Strength: 76 - 80 ksi
 Specimen Thk: 0.99 - 0.993 in.
 Specimen Width: 6 in.
 Ref: 85837;88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.75 (min)	0.208
5.	0.242
6.	0.438
7.	0.756
8.	1.24
9.	1.95
10.	2.93
13.	7.98
16.	18.4
18.39 (max)	35.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.08 (min)	1.92
8.	5.07
9.	9.34
10.	13.3
13.	23.9
16.	49.6
16.70 (max)	62.9

RMS %
 Error
 10.12

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 15.90

Life Prediction Ratio Summary

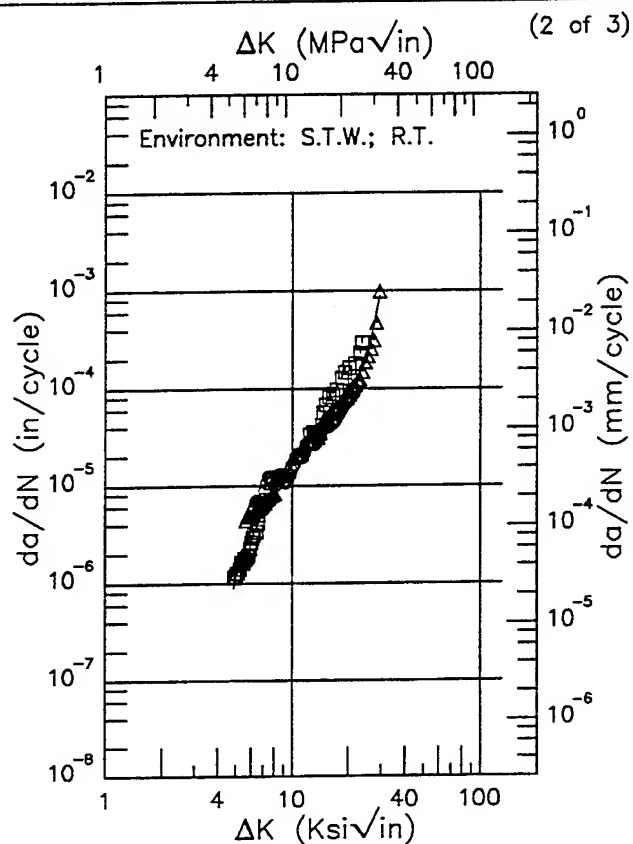
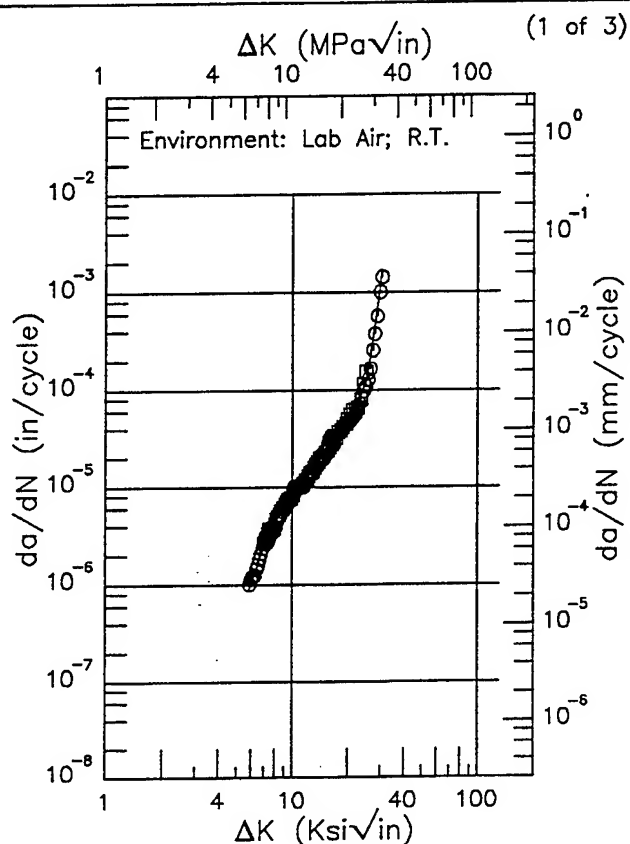
0. .5 .8 1.25 2.

Figure 8.7.3.1.39

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E | 7050 |
 Condition/Ht: T73651
 Form: 3.15 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 1 - 10 Hz

Yield Strength: 69 ksi
 Ult. Strength: 77.2 ksi
 Specimen Thk: 1.002 - 1.005 in.
 Specimen Width: 7.4 in.
 Ref: NC002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.86 (min)	0.889
6.	1.04
7.	2.45
8.	4.21
9.	6.09
10.	8.05
13.	15.8
16.	28.1
20.	47.1
25.	123.
30.	1240.
30.34 (max)	1554.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.87 (min)	0.904
5.	1.12
6.	3.53
7.	6.71
8.	9.92
9.	13.0
10.	16.2
13.	30.6
16.	54.5
20.	97.0
25.	191.
29.35 (max)	905.

RMS \propto
 Error
 9.06

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \propto
 Error
 25.14

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.40

Condition/Ht: T73651
 Form: 3.15 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 1 - 10 Hz

Yield Strength: 69 ksi
 Ult. Strength: 77.2 ksi
 Specimen Thk: 1.002 - 1.005 in.
 Specimen Width: 7.4 in.
 Ref: NC002

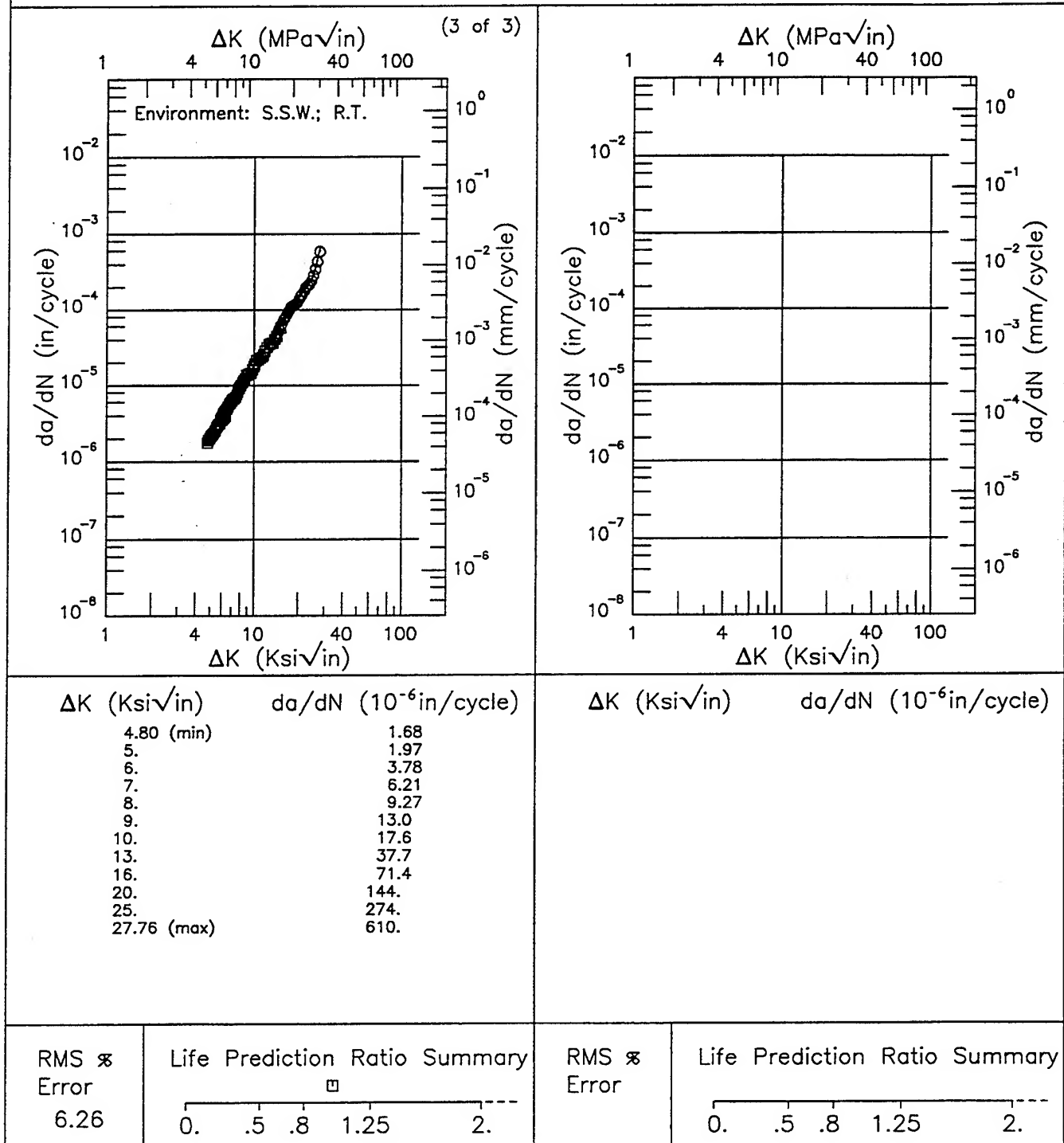


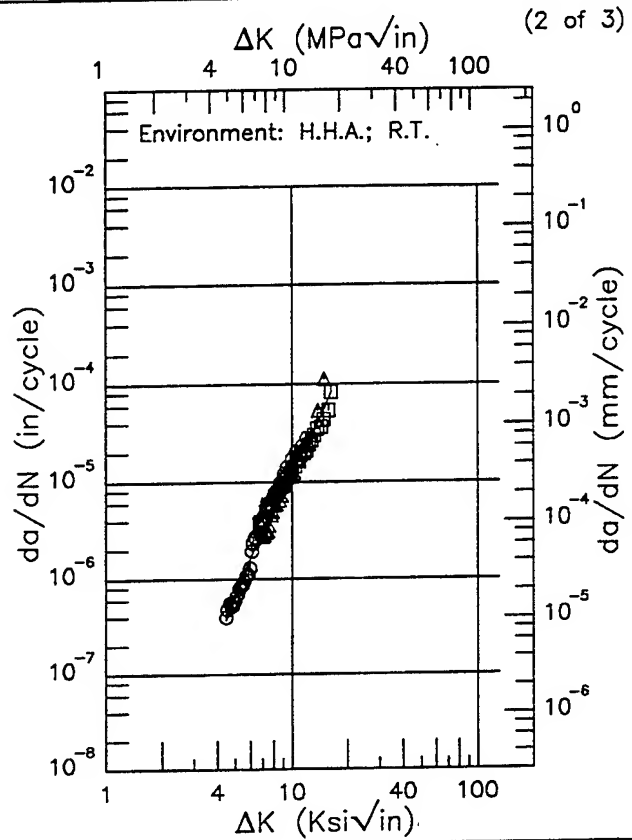
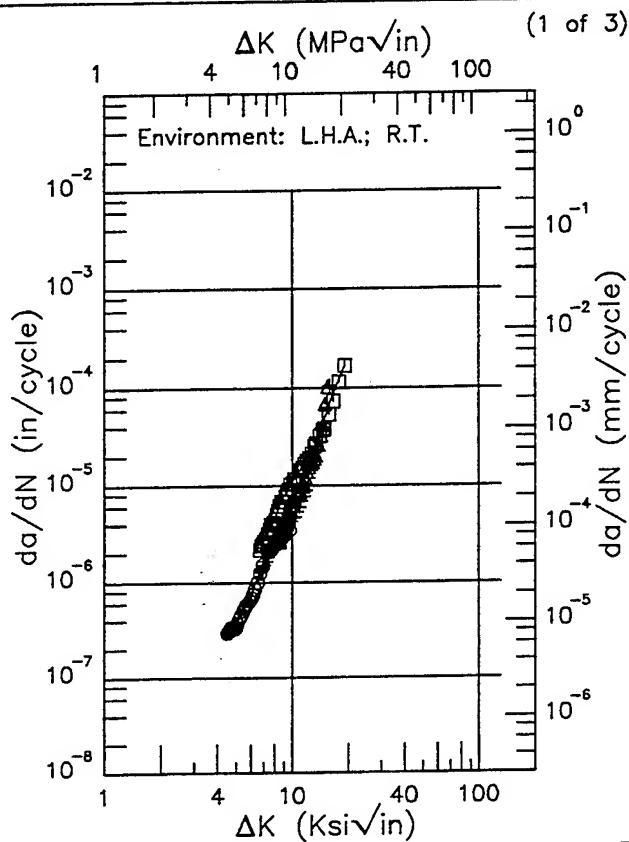
Figure 8.7.3.1.40 (Concluded)

7050

E

Condition/Ht: T73651
 Form: 1 - 6 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 59.1 - 65.4 ksi
 Ult. Strength: 70.5 - 75.1 ksi
 Specimen Thk: 0.999 - 1 in.
 Specimen Width: 3.801 - 3.805 in.
 Ref: AL013



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.48 (min)	0.308
5.	0.359
6.	0.747
7.	1.68
8.	3.13
9.	4.63
10.	6.26
13.	22.7
16.	77.1
18.86 (max)	164.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.45 (min)	0.367
5.	0.665
6.	1.64
7.	3.38
8.	6.03
9.	9.61
10.	14.0
13.	31.3
16.	75.1
16.30 (max)	83.3

RMS %
 Error
 30.75

Life Prediction Ratio Summary

RMS %
 Error
 19.38

Life Prediction Ratio Summary

Figure 8.7.3.1.41

Condition/Ht: T73651
 Form: 1 - 6 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 59.1 - 65.4 ksi
 Ult. Strength: 70.5 - 75.1 ksi
 Specimen Thk: 0.999 - 1 in.
 Specimen Width: 3.801 - 3.805 in.
 Ref: AL013

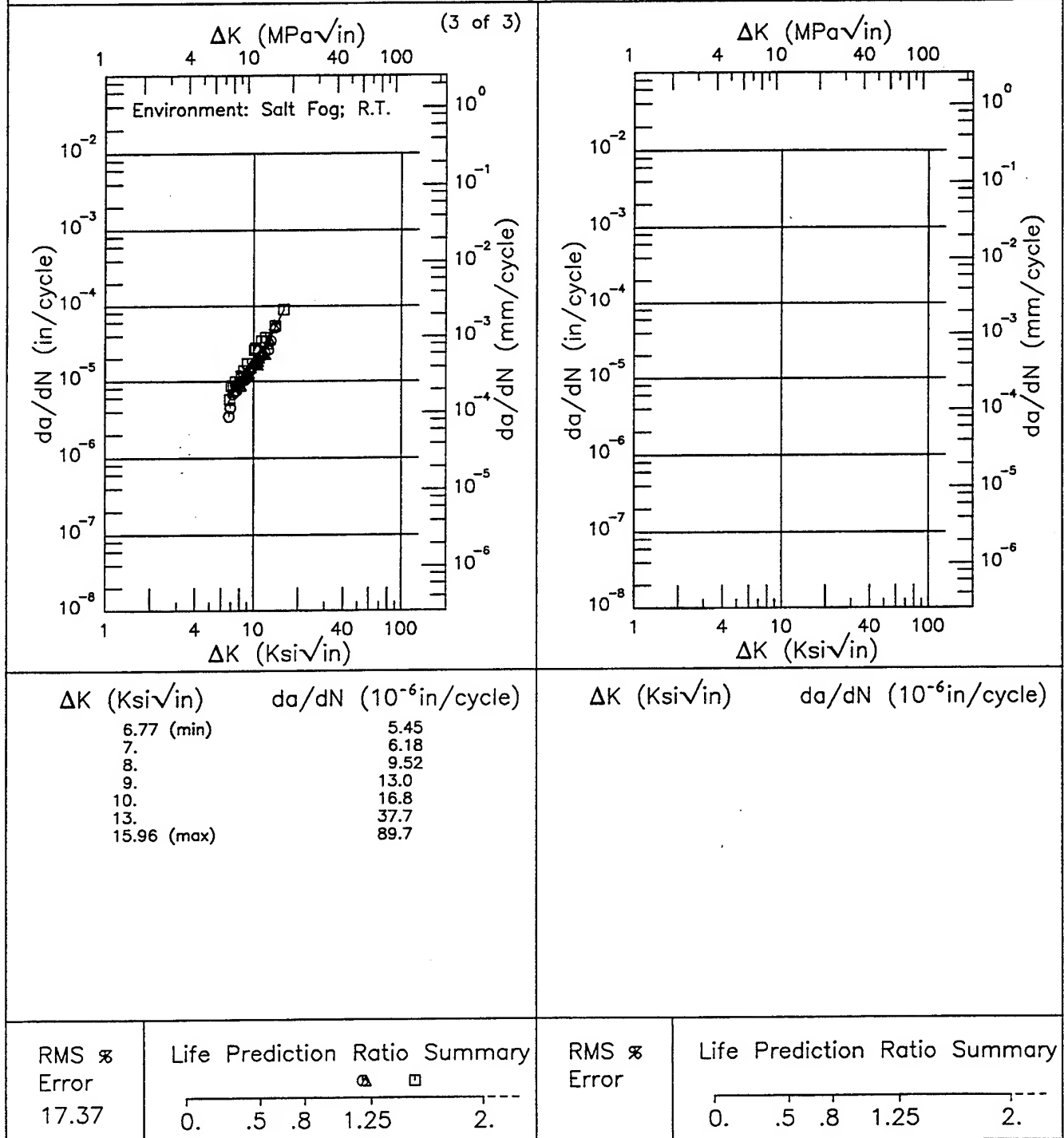
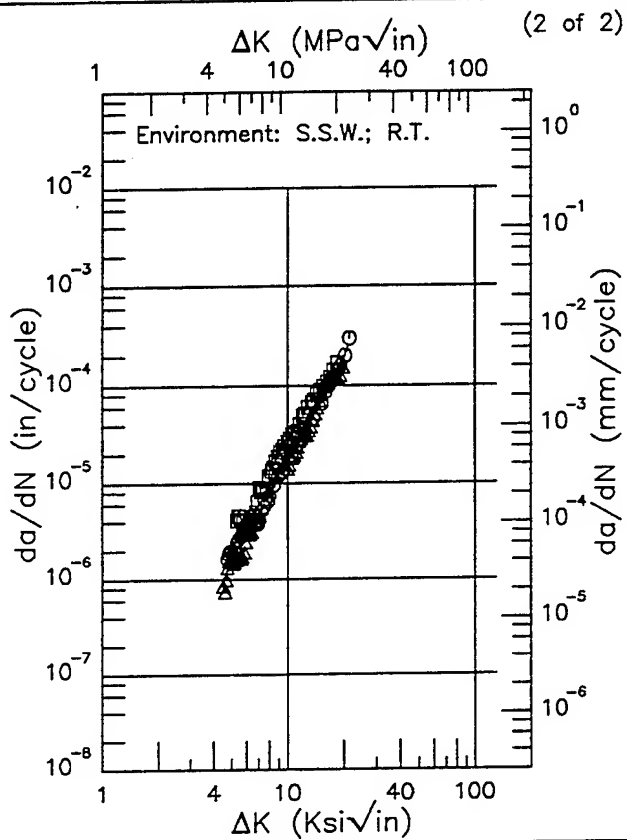
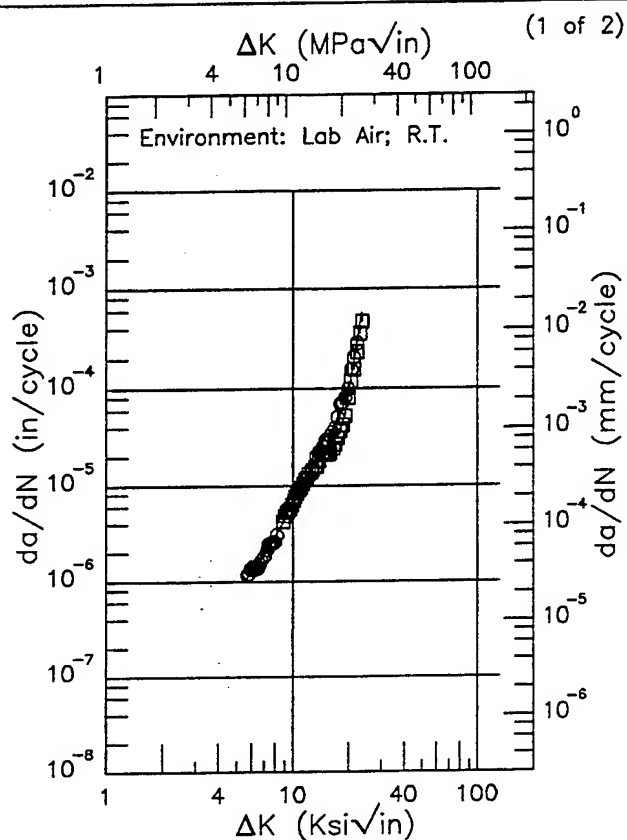


Figure 8.7.3.1.41 (Concluded)

E 7050
 Condition/Ht: T73651
 Form: 3.15 in. Plate
 Specimen Type: CT
 Orientation: S-T
 Stress Ratio: 0.1
 Frequency: 1 - 10 Hz

Yield Strength: 64.3 ksi
 Ult. Strength: 74.5 ksi
 Specimen Thk: 0.499 - 0.5 in.
 Specimen Width: 3 in.
 Ref: NC002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.68 (min)	1.10
6.	1.25
7.	1.91
8.	2.94
9.	4.42
10.	6.44
13.	16.1
16.	30.5
20.	91.9
23.60 (max)	576.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.47 (min)	0.939
5.	1.56
6.	3.31
7.	5.91
8.	9.47
9.	14.1
10.	20.1
13.	47.1
16.	89.3
20.	191.
21.33 (max)	259.

RMS %
 Error
 13.79

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 26.64

Life Prediction Ratio Summary

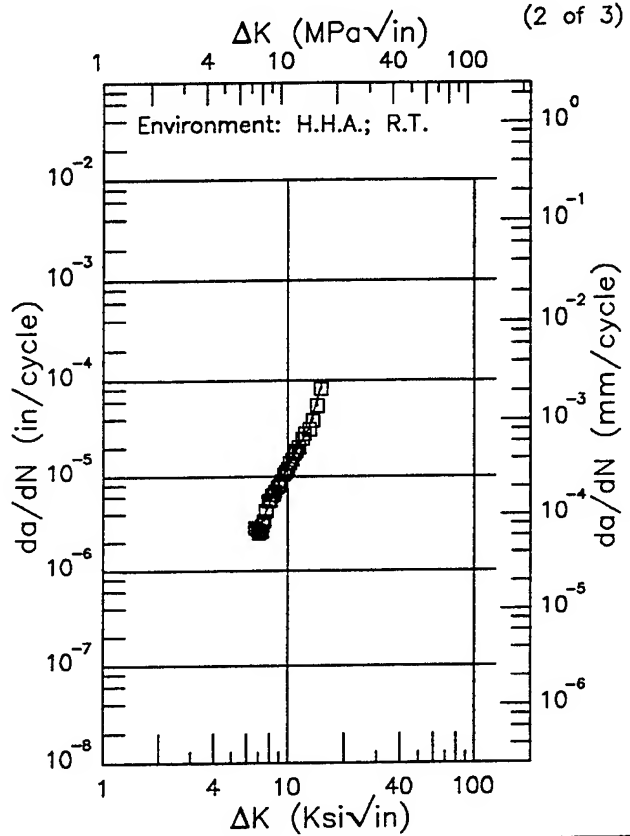
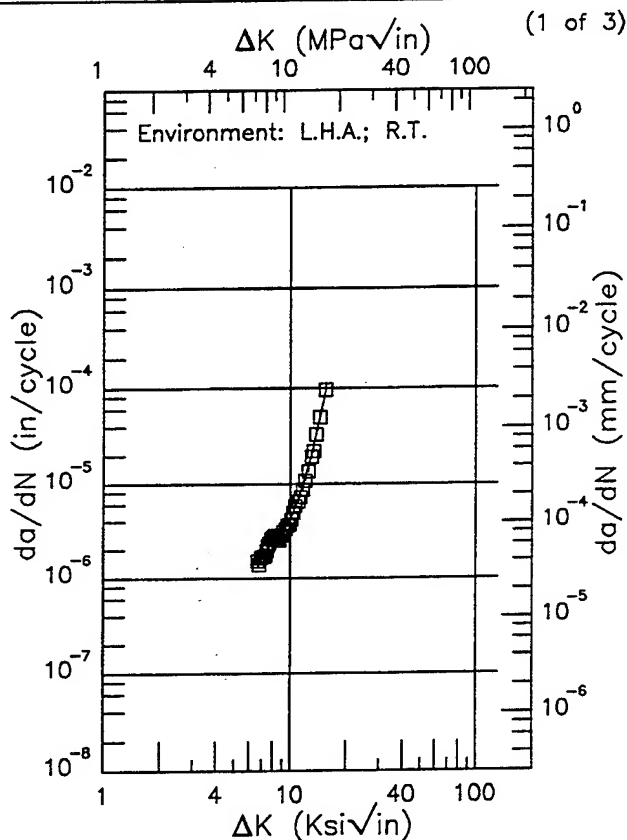
 0. .5 .8 1.25 2.

Figure 8.7.3.1.42

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E | 7050 |
 Condition/Ht: T73651
 Form: 6 in. Plate
 Specimen Type: CT
 Orientation: S-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 56.8 ksi
 Ult. Strength: 67.7 ksi
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL013



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.67 (min)	1.31
7.	1.65
8.	2.41
9.	3.01
10.	4.05
13.	19.6
15.48 (max)	95.2

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.71 (min)	2.32
7.	2.74
8.	5.07
9.	8.52
10.	12.5
13.	32.8
14.95 (max)	83.9

RMS \times
 Error
 7.65

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \times
 Error
 8.46

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.43

Condition/Ht: T73651
 Form: 6 in. Plate
 Specimen Type: CT
 Orientation: S-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 56.8 ksi
 Ult. Strength: 67.7 ksi
 Specimen Thk: 0.998 - 1 in.
 Specimen Width: 3.805 in.
 Ref: AL013

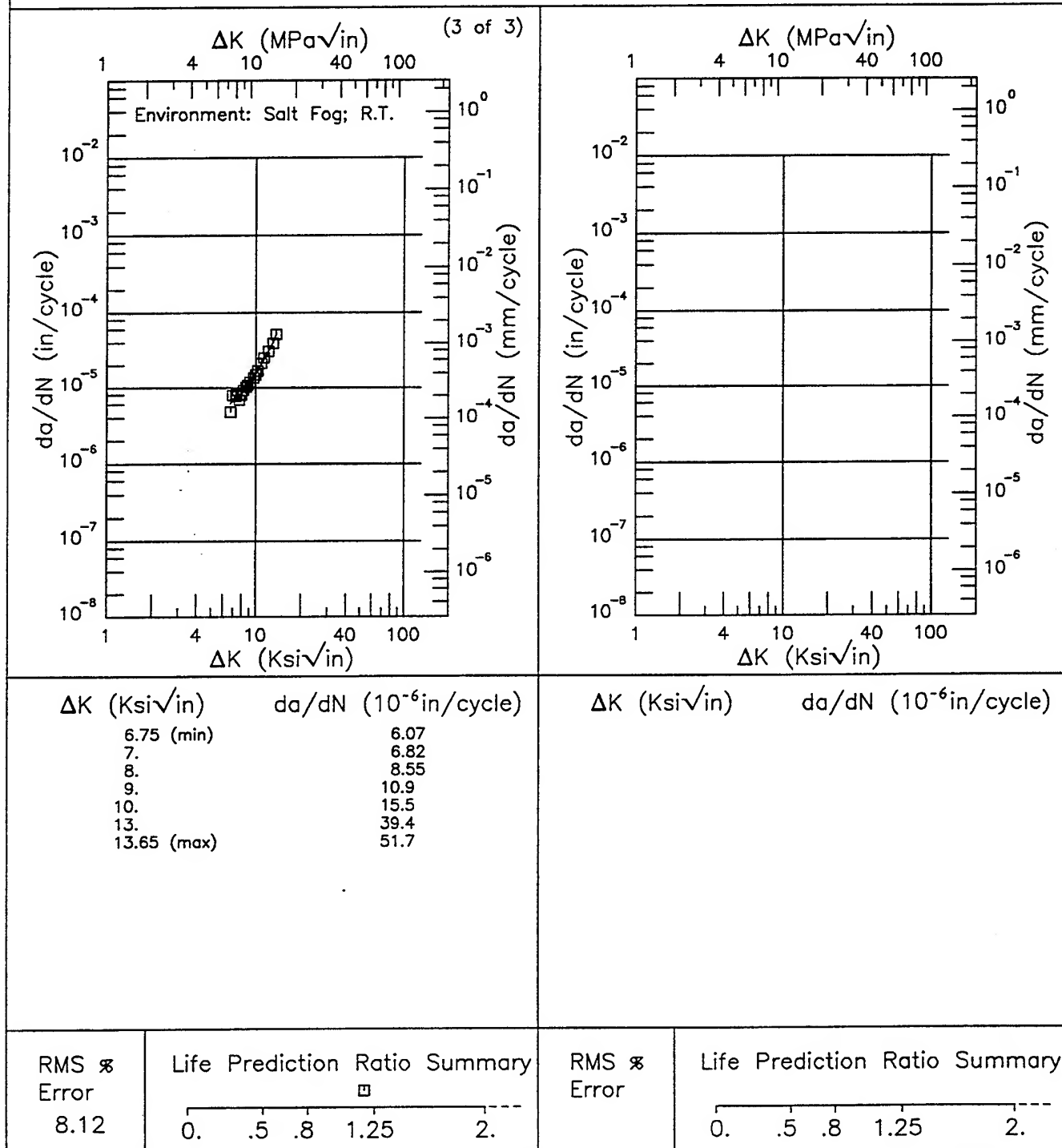


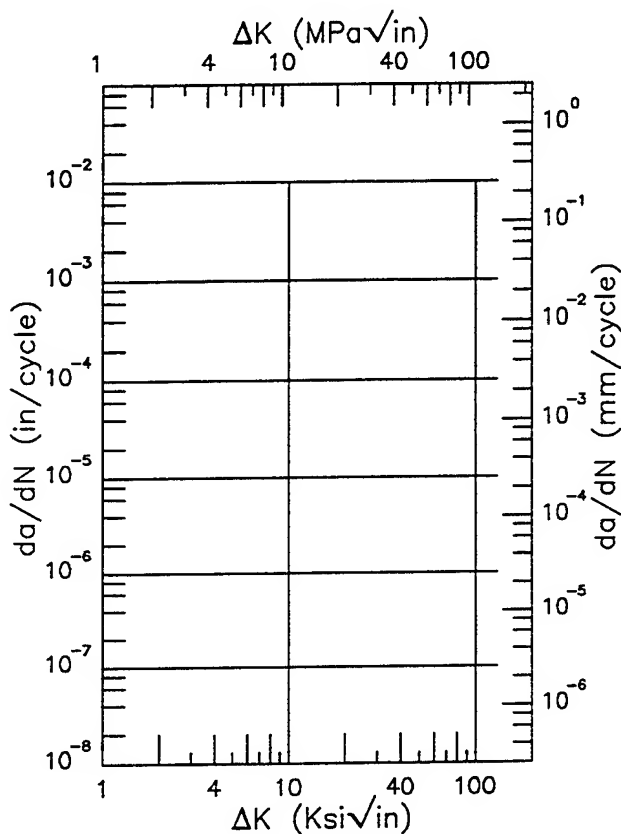
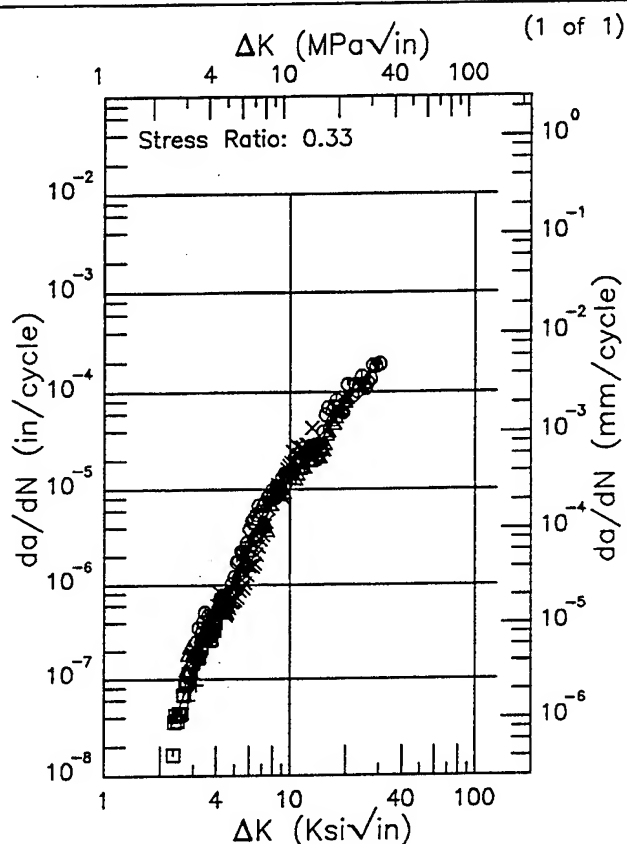
Figure 8.7.3.1.43 (Concluded)

R

7050

Condition/Ht: T73651
 Form: 1 - 5.68 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 25 Hz
 Environment: H.H.A.; RT

Yield Strength: 69 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 2.546 - 2.55 in.
 Ref: AL013



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
2.34 (min)	0.0341
2.5	0.0481
3.	0.120
3.5	0.251
4.	0.461
5.	1.20
6.	2.46
7.	4.33
8.	6.83
9.	9.96
10.	13.7
13.	27.6
16.	45.2
20.	76.5
25.	133.
30.	183.
30.30 (max)	185.

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 31.40

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.44

Condition/Ht: T73651
 Form: 1 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 25 Hz
 Environment: H.H.A.; RT

Yield Strength: 69 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.243 in.
 Specimen Width: 2.496 in.
 Ref: AL013

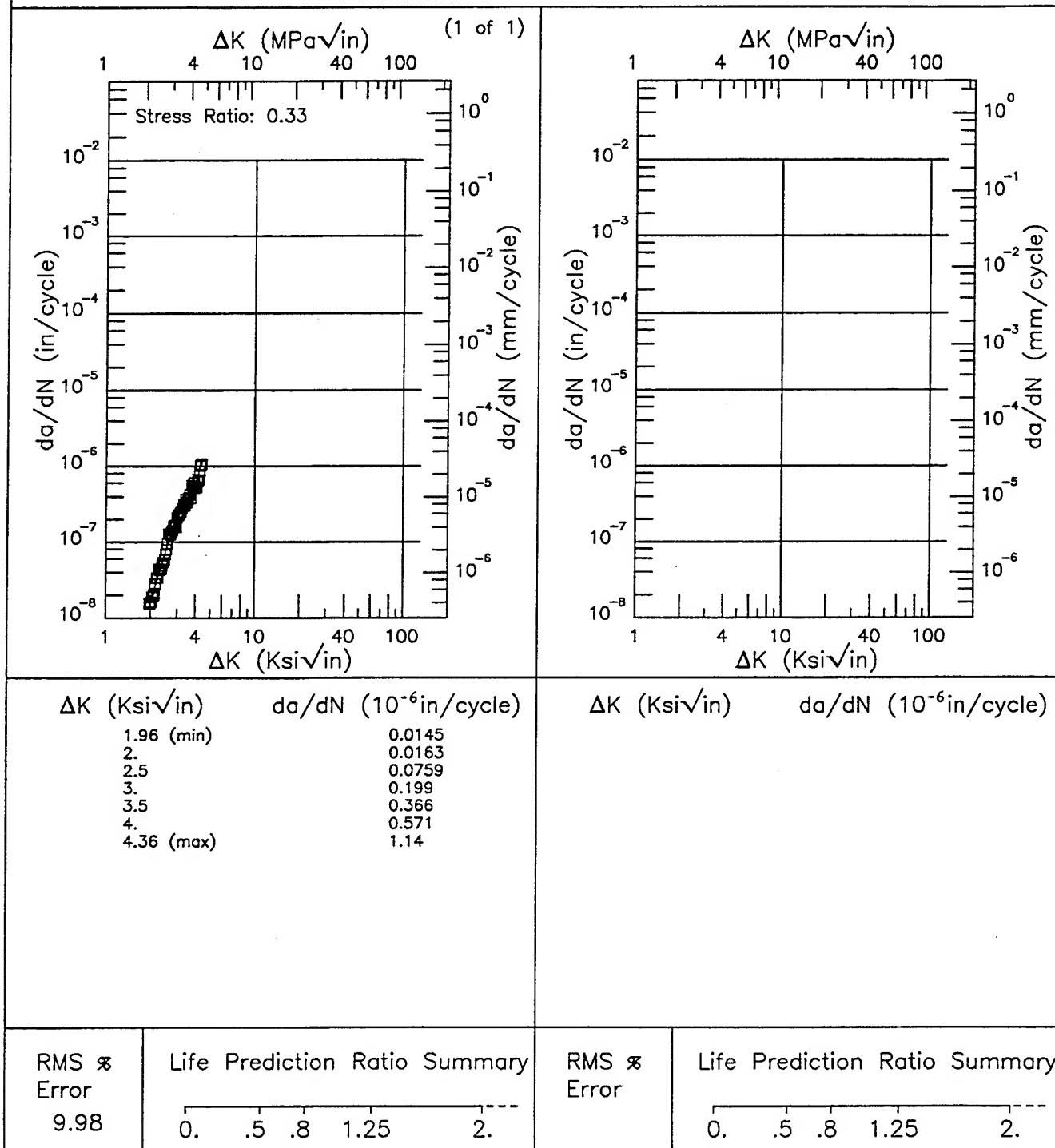


Figure 8.7.3.1.45

R

7050

Condition/Ht: T73651

Form: 1.13 in. Plate

Specimen Type:

Orientation:

Frequency: 1 Hz

Environment: 3.5% NaCl; RT

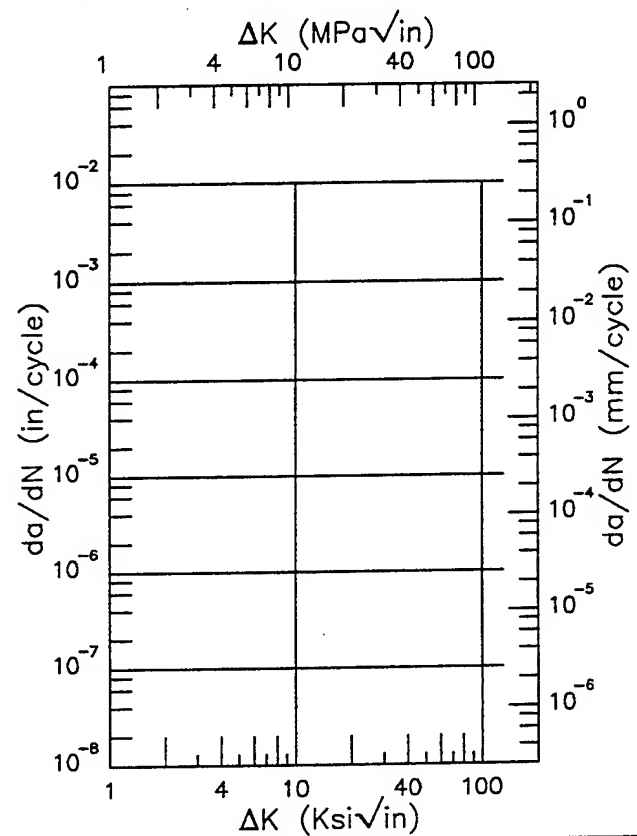
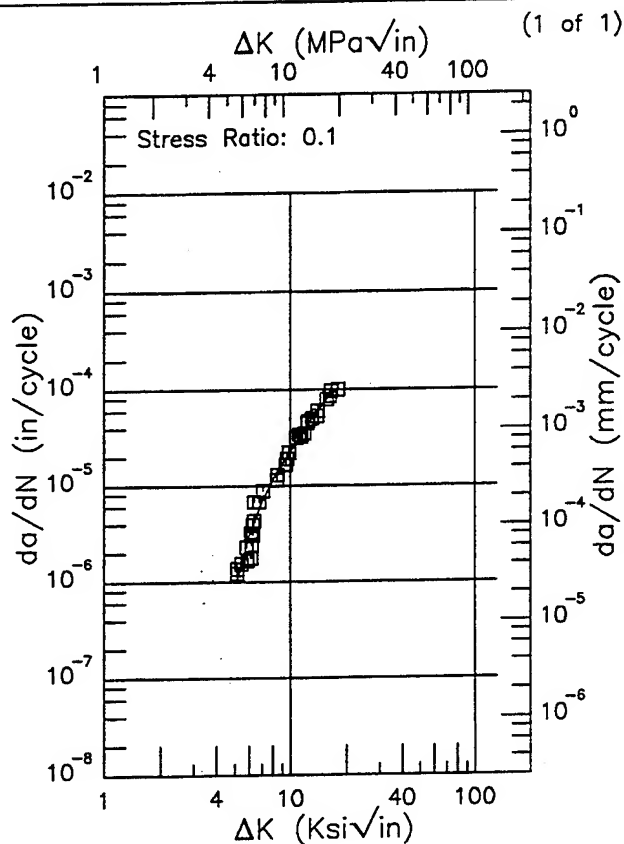
Yield Strength:

Ult. Strength:

Specimen Thk:

Specimen Width:

Ref: 91332



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.14 (min)	0.989
6.	3.02
7.	6.78
8.	11.5
9.	16.7
10.	22.6
13.	49.3
16.	85.7
17.87 (max)	99.7

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
Error
19.69

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.46

Condition/Ht: T73651
 Form: 0.44 - 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.151 in.
 Specimen Width: 3 in.
 Ref: 86844

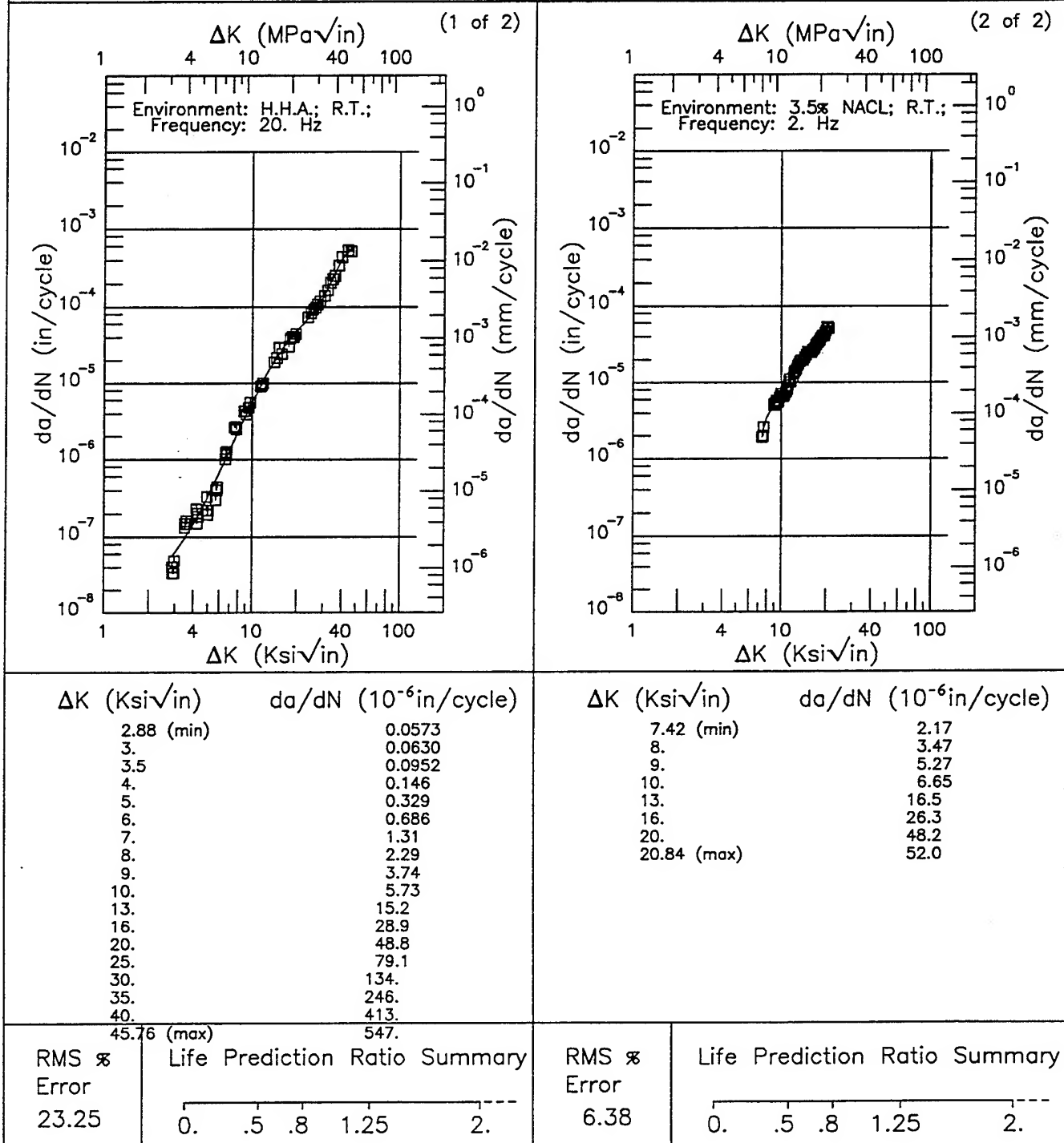
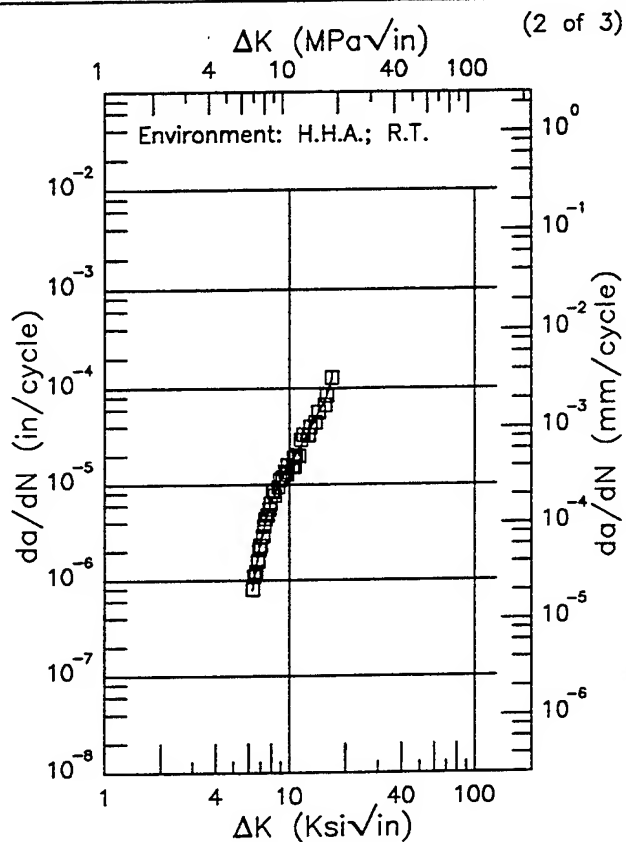
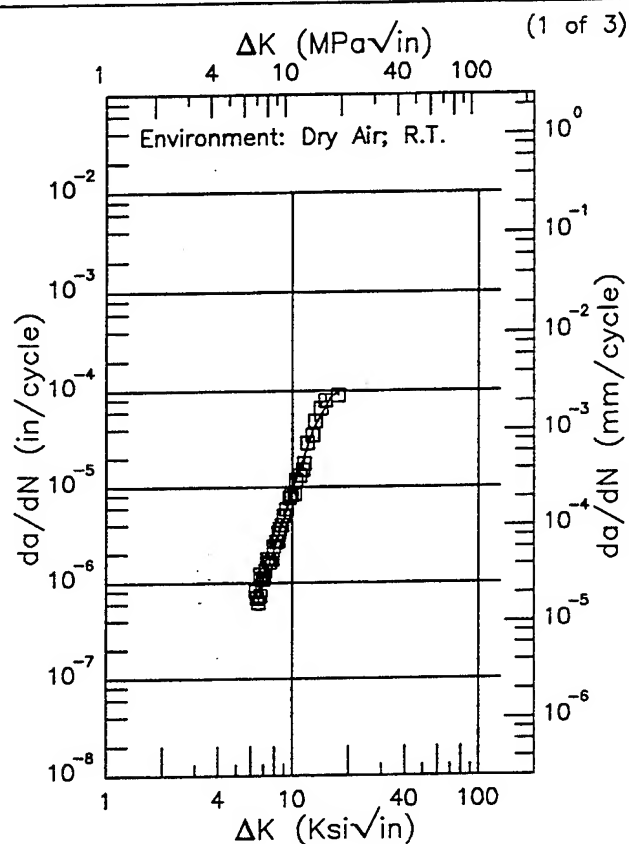


Figure 8.7.3.1.47

E 7050

Condition/Ht: T73652
 Form: 2.5 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 63.5 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL015



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.37 (min)	0.747
7.	1.10
8.	2.24
9.	4.57
10.	8.90
13.	40.5
16.	85.8
17.47 (max)	96.5

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.31 (min)	0.775
7.	2.57
8.	6.69
9.	11.1
10.	15.7
13.	38.9
16.	82.7
16.93 (max)	129.

RMS %
 Error
 13.93

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 9.37

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.48

Condition/Ht: T73652
 Form: 2.5 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 63.5 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL015

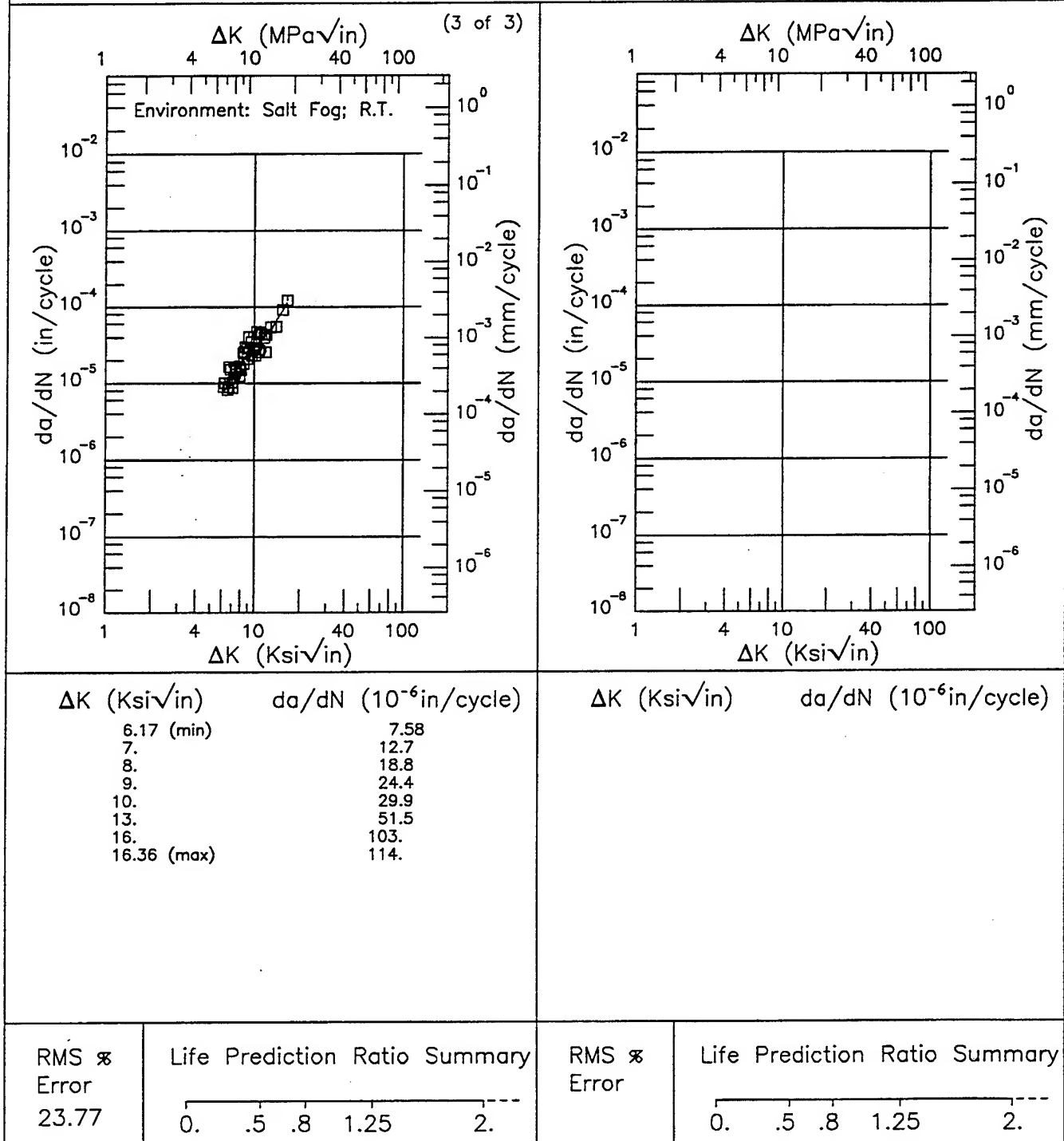
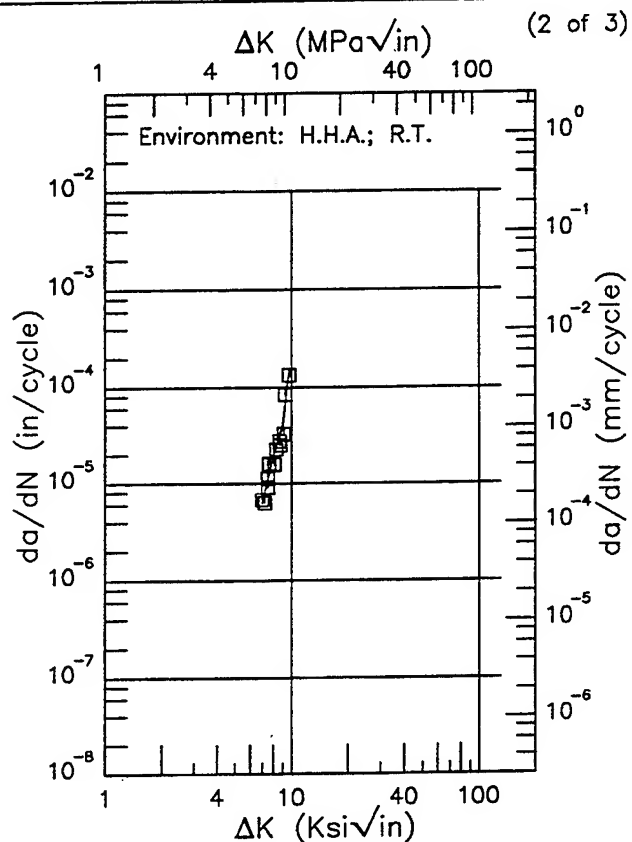
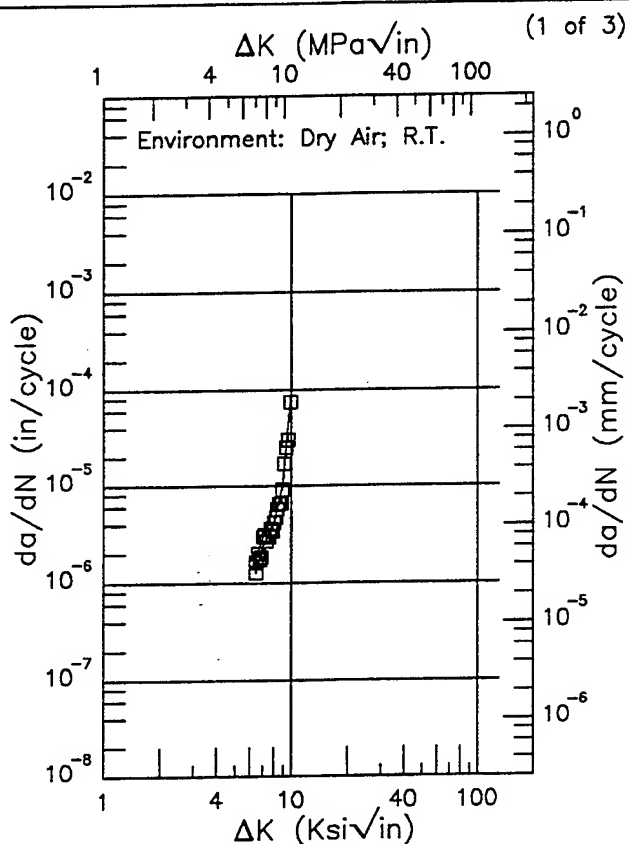


Figure 8.7.3.1.48 (Concluded)

E 7050

Condition/Ht: T73652
 Form: 7.5 in. Forging
 Specimen Type: CT
 Orientation: S-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 58.1 ksi
 Ult. Strength: 71 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL015



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.44 (min)	1.29
7.	2.38
8.	3.96
9.	11.2
9.85 (max)	71.6

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.96 (min)	6.41
7.	6.18
8.	19.5
9.	40.3
9.64 (max)	135.

RMS %
 Error
 15.07

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 20.34

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.49

Condition/Ht: T73652
 Form: 7.5 in. Forging
 Specimen Type: CT
 Orientation: S-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 58.1 ksi
 Ult. Strength: 71 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.805 in.
 Ref: AL015

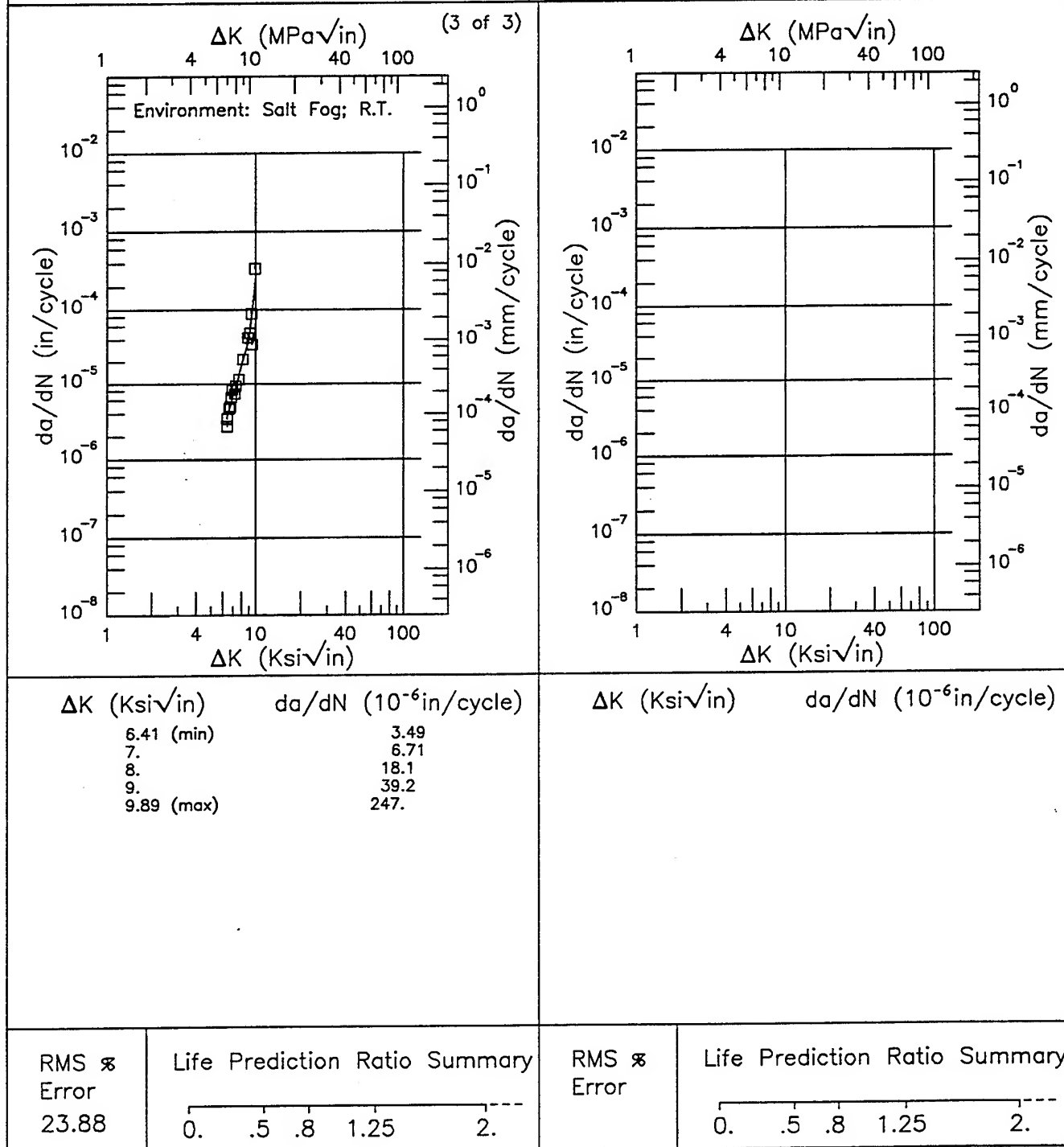


Figure 8.7.3.1.49 (Concluded)

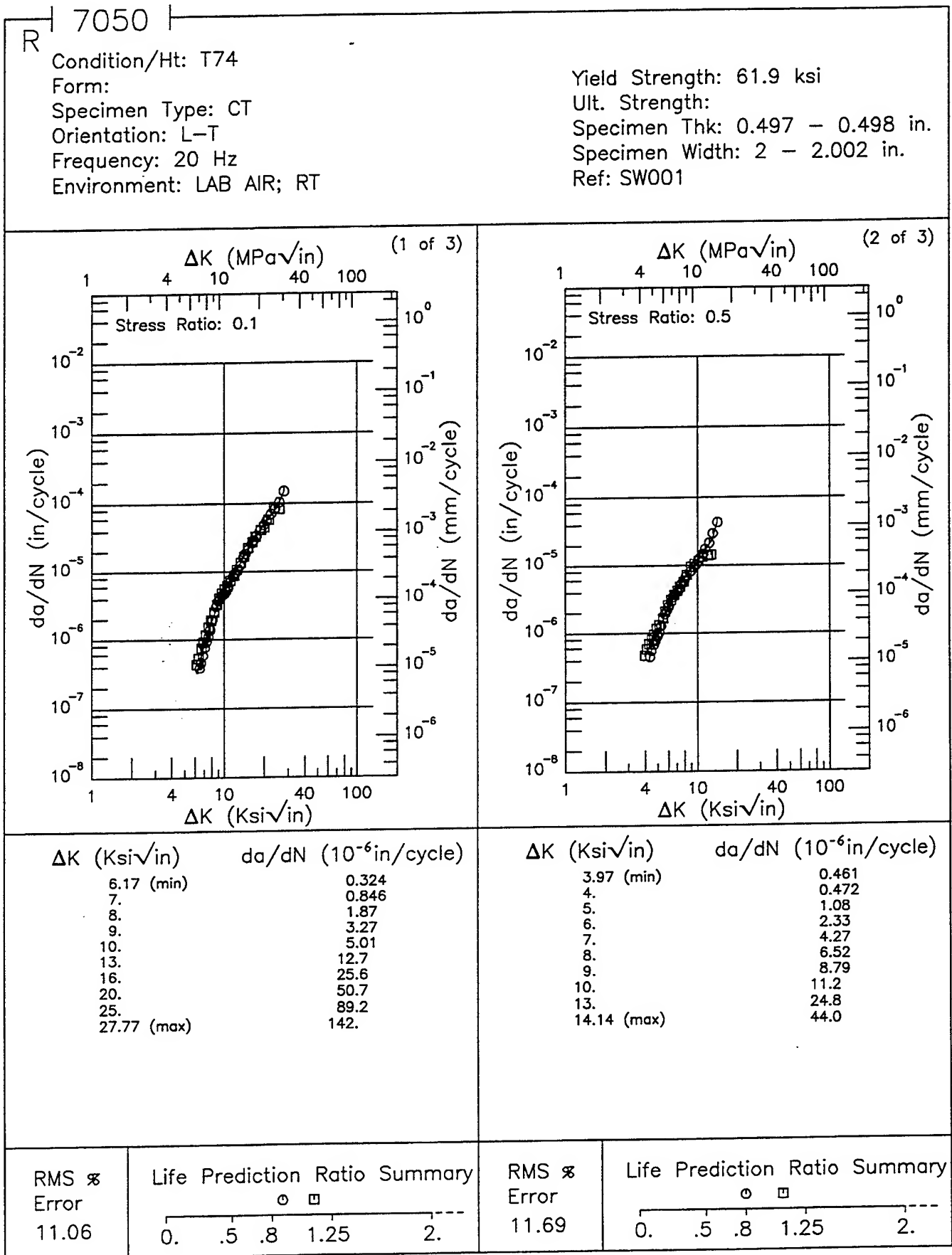


Figure 8.7.3.1.50

Condition/Ht: T74

Form:

Specimen Type: CT

Orientation: L-T

Frequency: 20 Hz

Environment: LAB AIR; RT

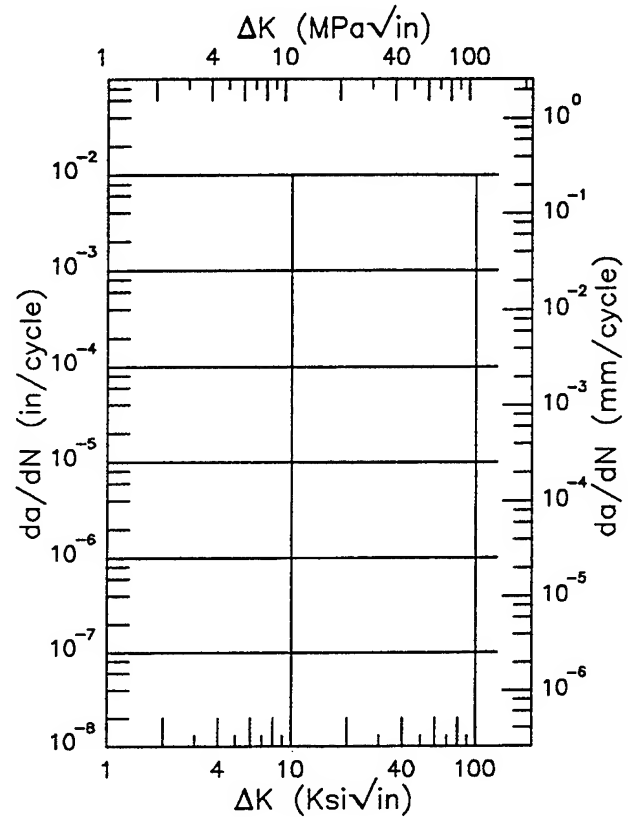
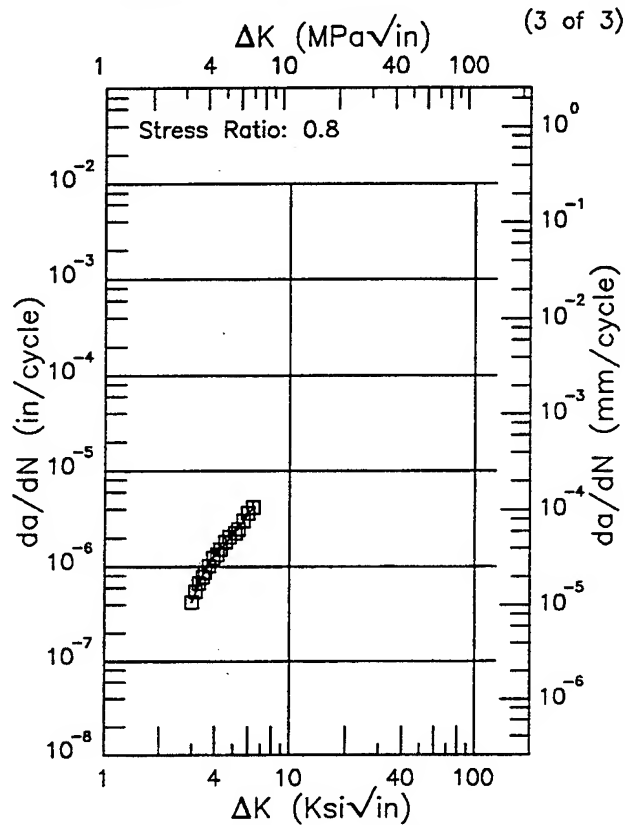
Yield Strength: 61.9 ksi

Ult. Strength:

Specimen Thk: 0.497 - 0.498 in.

Specimen Width: 2 - 2.002 in.

Ref: SW001

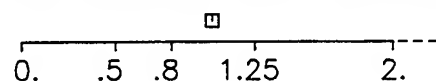


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.99 (min)	0.421
3.	0.432
3.5	0.854
4.	1.29
5.	2.18
6.	3.53
6.36 (max)	4.18

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
Error
2.72

Life Prediction Ratio Summary



RMS %
Error

Life Prediction Ratio Summary

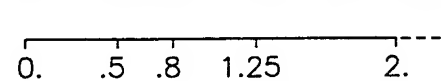


Figure 8.7.3.1.50 (Concluded)

R

7050

Condition/Ht: T74

Form:

Specimen Type: CT

Orientation: L-T

Frequency: 30 Hz

Environment: LAB AIR; RT

Yield Strength: 61.9 ksi

Ult. Strength:

Specimen Thk: 0.498 in.

Specimen Width: 2 in.

Ref: SW001

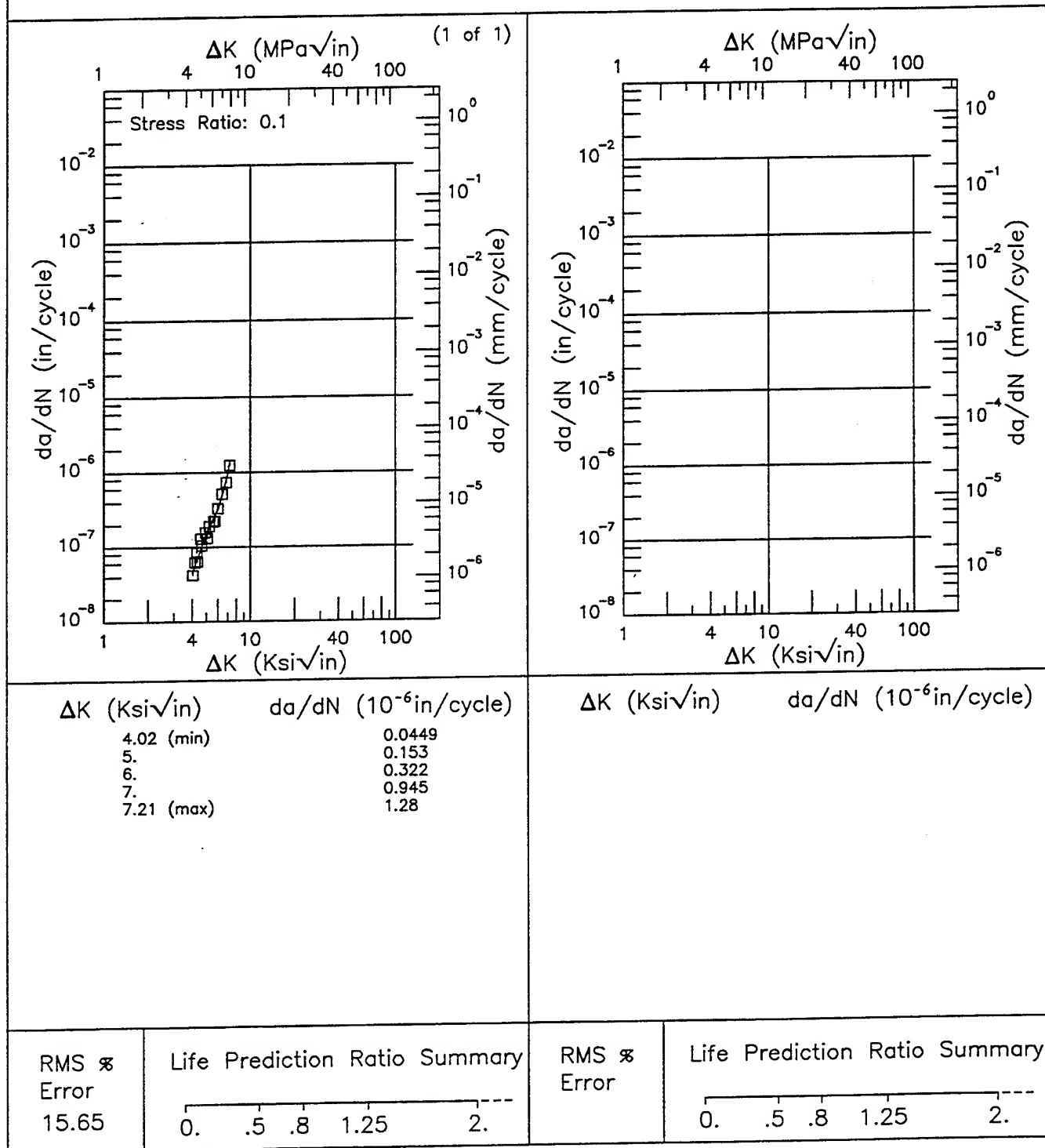


Figure 8.7.3.1.51

Condition/Ht: T7451
 Form: 0.5 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.249 - 0.251 in.
 Specimen Width: 3.998 - 4.005 in.
 Ref: NC005

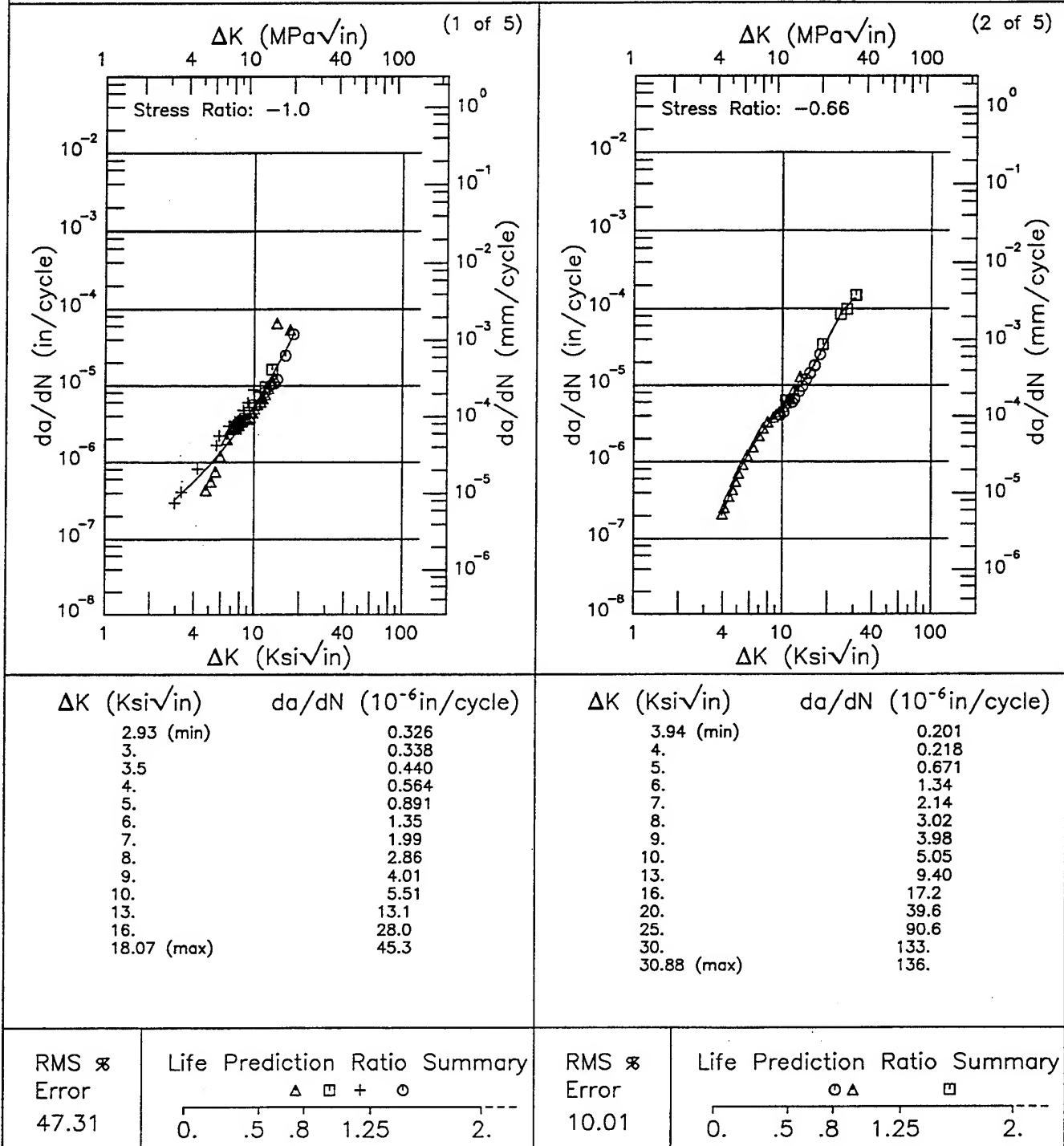


Figure 8.7.3.1.52

R

7050

Condition/Ht: T7451

Form: 0.5 in. Plate

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 10 Hz

Environment: LAB AIR; RT

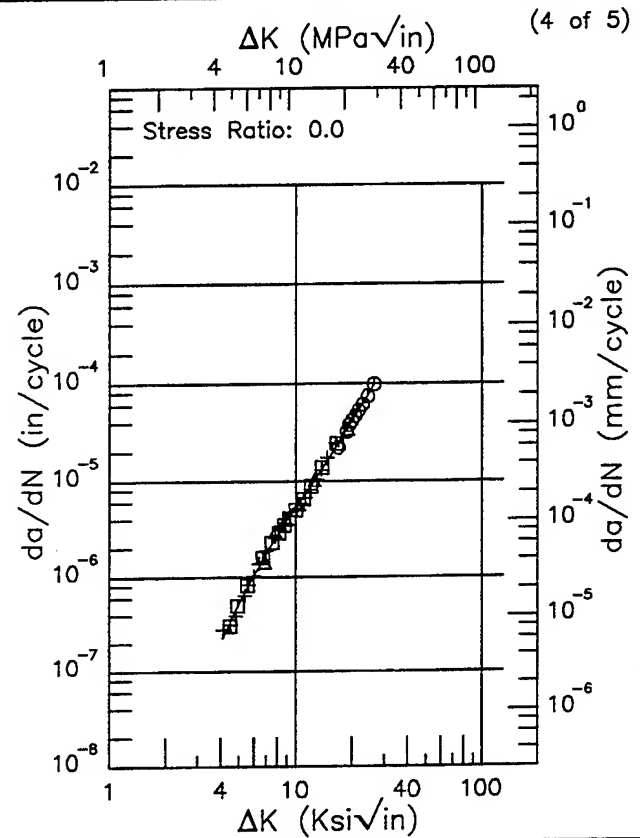
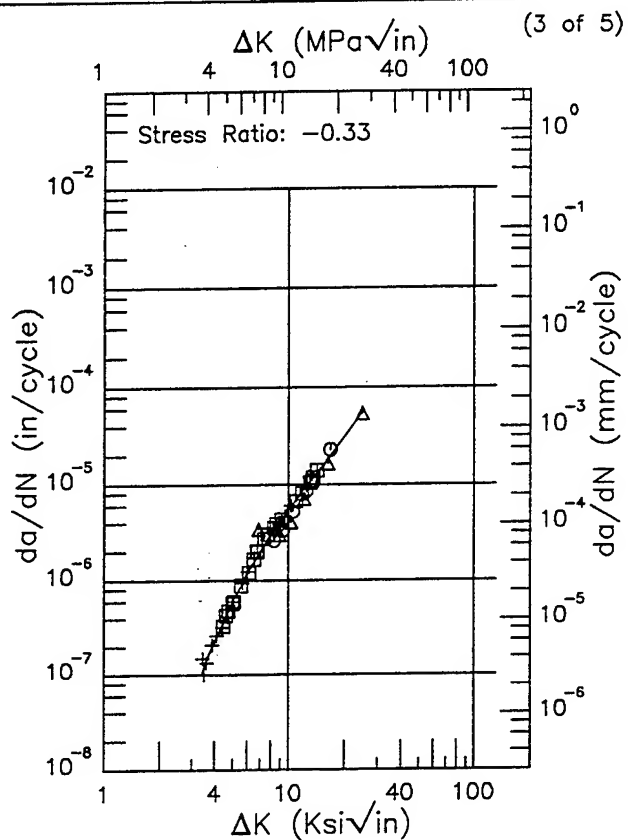
Yield Strength:

Ult. Strength:

Specimen Thk: 0.249 - 0.251 in.

Specimen Width: 3.998 - 4.005 in.

Ref: NC005



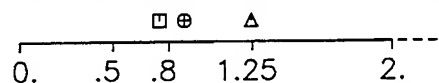
ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.44 (min)	0.107
3.5	0.116
4.	0.226
5.	0.598
6.	1.18
7.	1.97
8.	2.96
9.	4.13
10.	5.47
13.	10.6
16.	17.6
20.	31.0
24.66 (max)	55.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.11 (min)	0.229
5.	0.516
6.	1.03
7.	1.76
8.	2.72
9.	3.90
10.	5.29
13.	11.0
16.	20.6
20.	41.8
25.	80.8
26.24 (max)	97.4

RMS %
Error

17.04

Life Prediction Ratio Summary

RMS %
Error

7.02

Life Prediction Ratio Summary

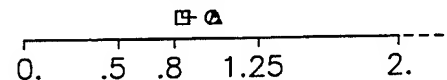


Figure 8.7.3.1.52 (Continued)

Condition/Ht: T7451
 Form: 0.5 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.249 - 0.251 in.
 Specimen Width: 3.998 - 4.005 in.
 Ref: NC005

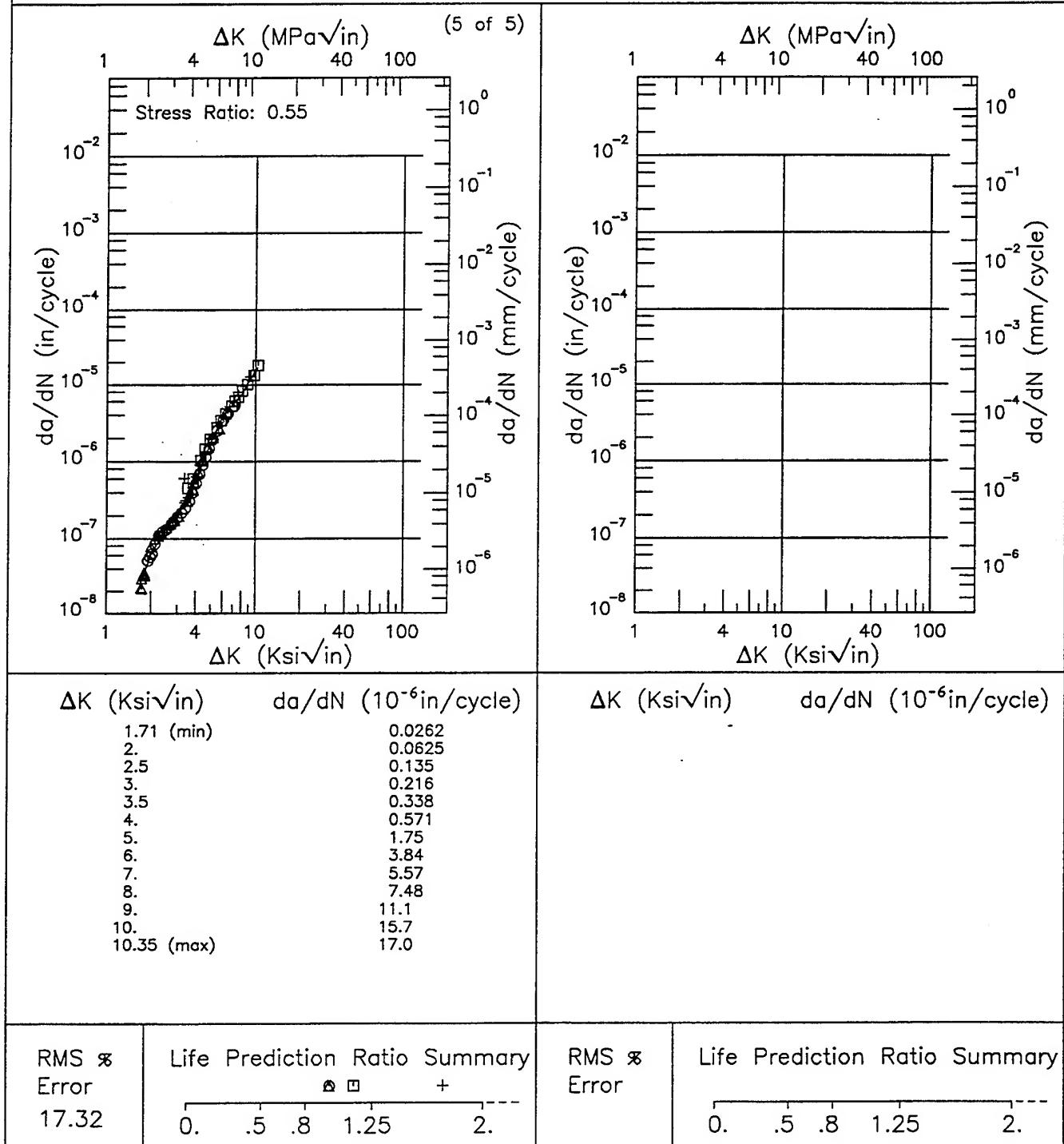


Figure 8.7.3.1.52 (Concluded)

R

7050

Condition/Ht: T7451
 Form: 0.5 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.25 - 0.255 in.
 Specimen Width: 3.899 - 3.902 in.
 Ref: NC005

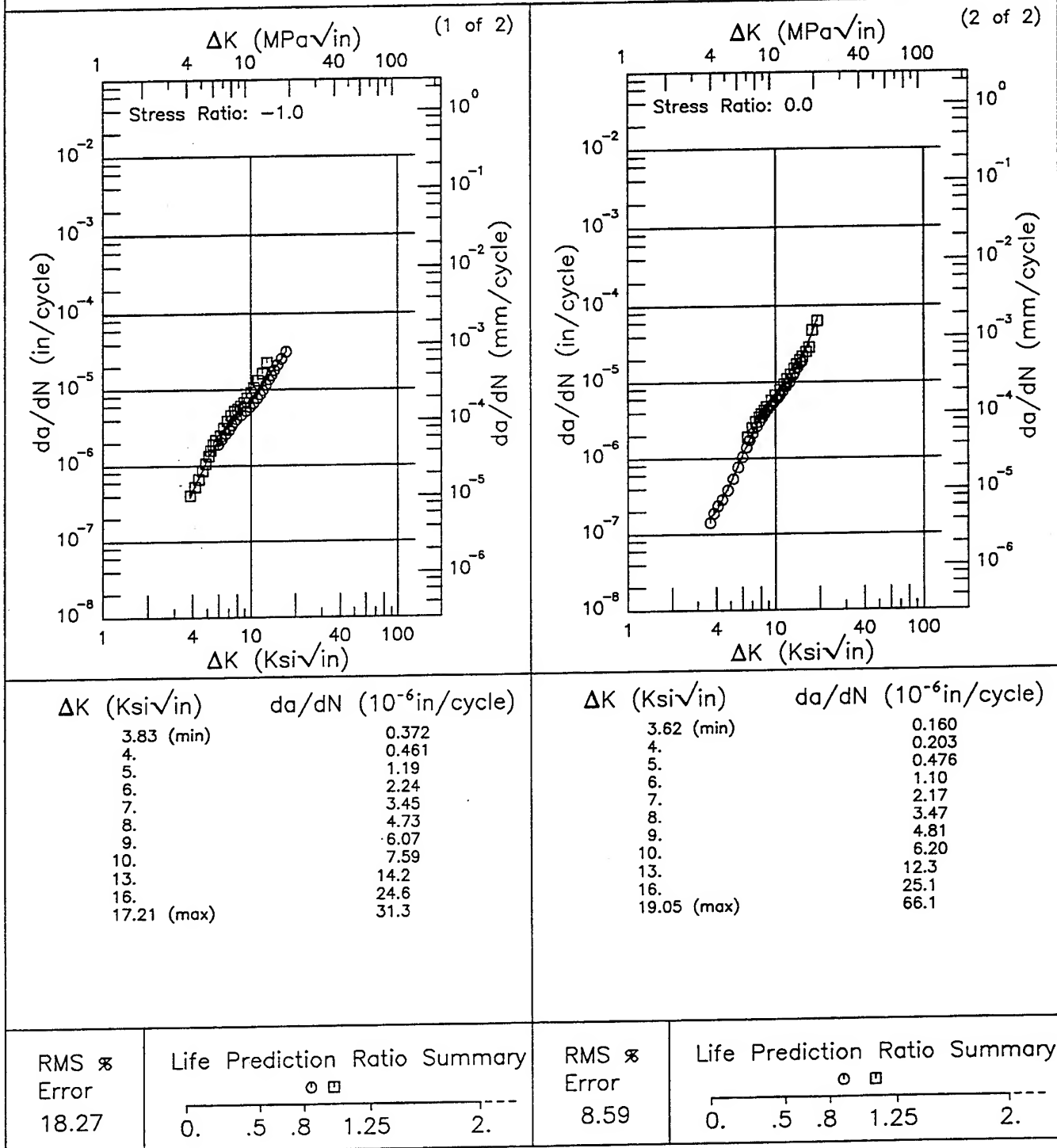


Figure 8.7.3.1.53

Condition/Ht: T7451
 Form: 2 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: LAB AIR; RT

Yield Strength: 72 ksi
 Ult. Strength: 78 ksi
 Specimen Thk: 0.252 in.
 Specimen Width: 3.8 - 3.81 in.
 Ref: MD002

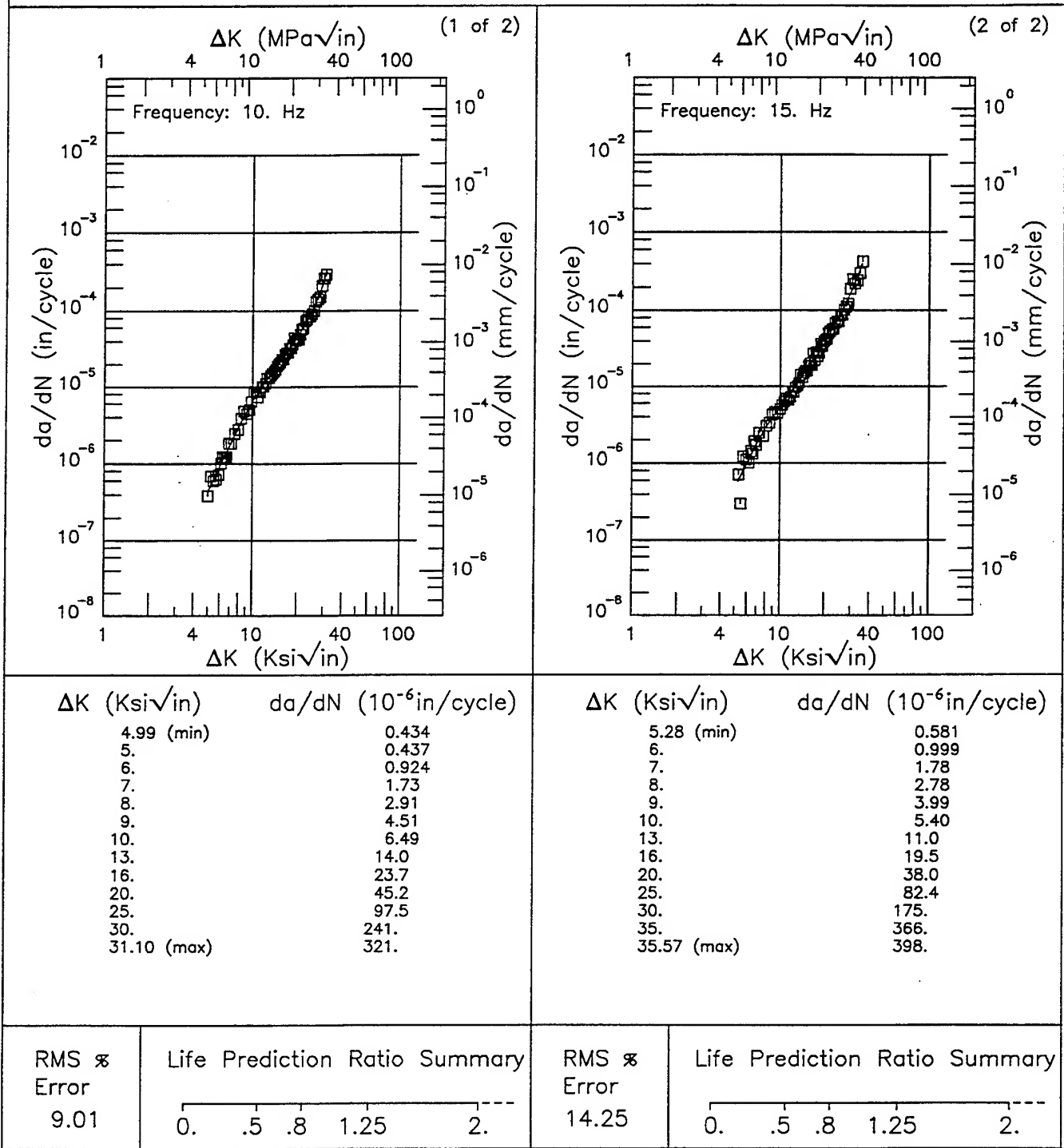
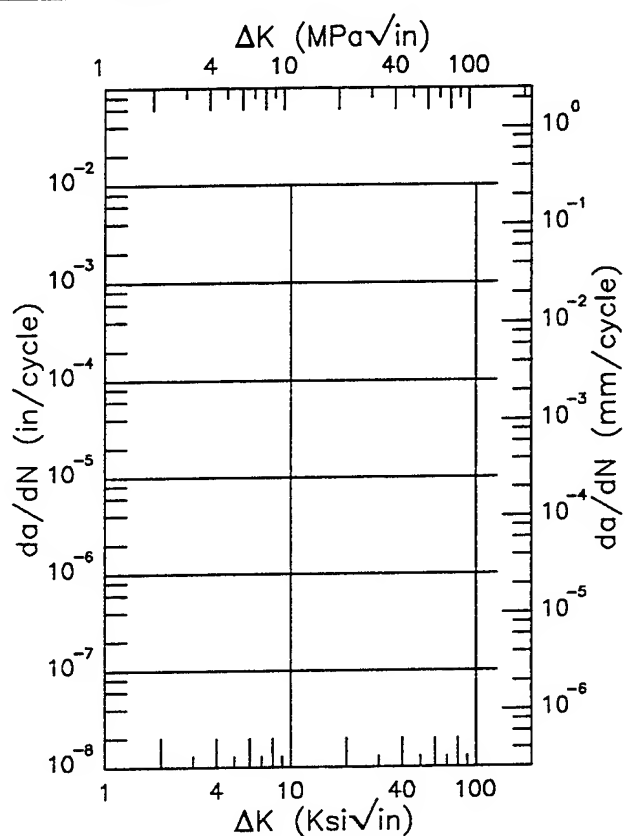
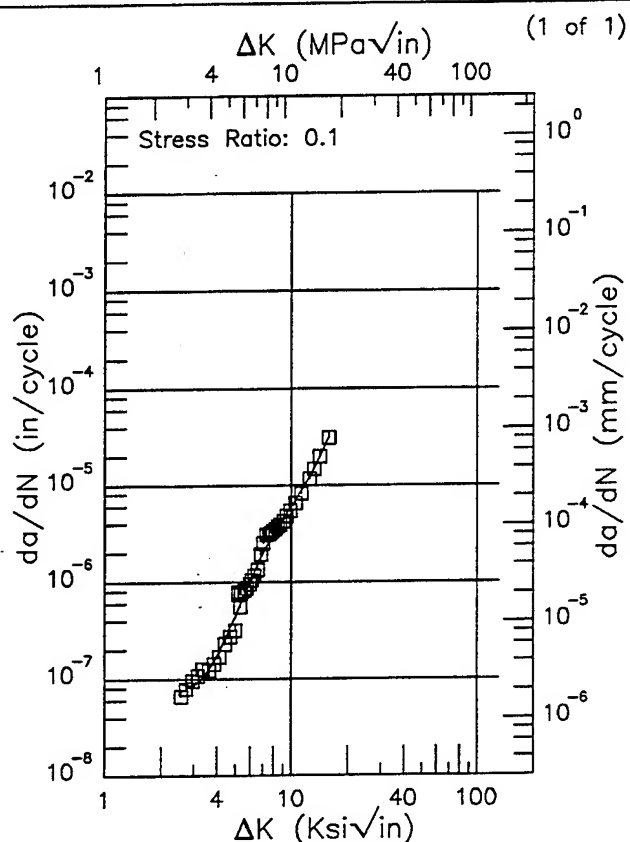


Figure 8.7.3.1.54

R 7050
 Condition/Ht: T74511
 Form: 0.75 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency:
 Environment: LAB AIR; RT

Yield Strength: 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 2 in.
 Ref: DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.56 (min)	0.0905
3.	0.0847
3.5	0.111
4.	0.170
5.	0.445
6.	1.04
7.	1.98
8.	3.12
9.	4.41
10.	5.92
13.	13.7
15.78 (max)	31.2

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 16.70

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

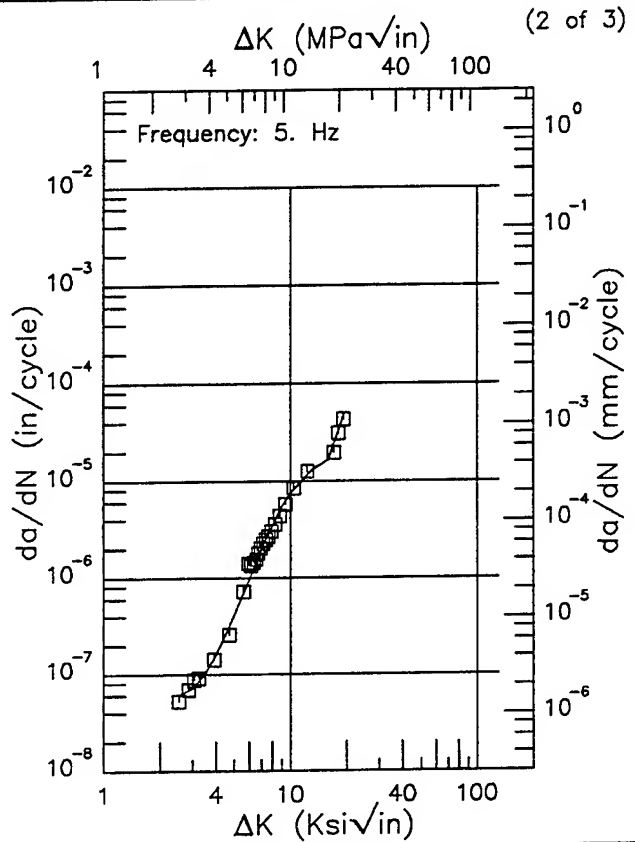
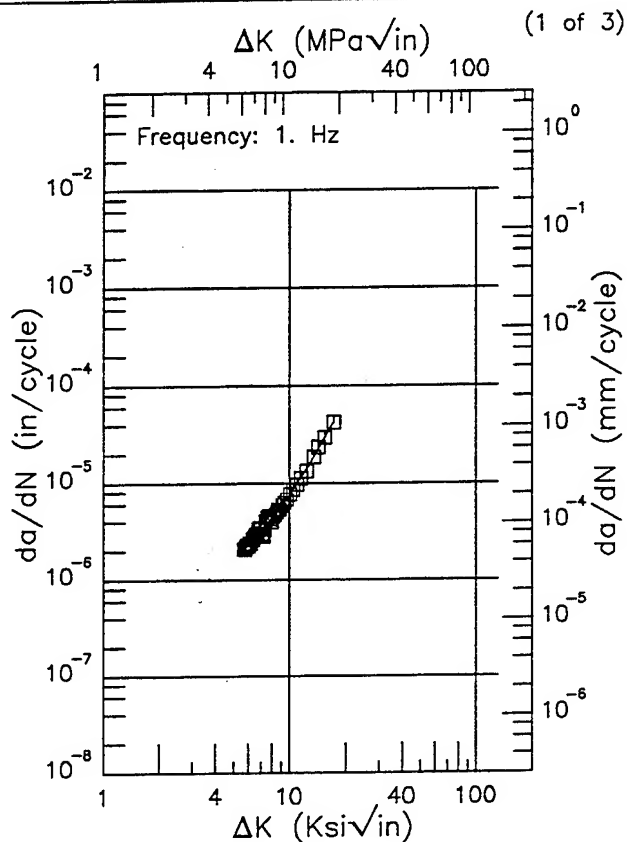
Figure 8.7.3.1.55

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F 7050

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: LAB AIR; RT

Yield Strength: 65.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.249 - 0.252 in.
 Specimen Width: 2.001 - 2.007 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.65 (min)	2.00
6.	2.31
7.	3.26
8.	4.37
9.	5.74
10.	7.50
13.	16.7
16.	34.7
17.04 (max)	41.7

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.53 (min)	0.0613
3.	0.0712
3.5	0.103
4.	0.161
5.	0.414
6.	0.971
7.	1.98
8.	3.49
9.	5.41
10.	7.55
13.	13.0
16.	16.5
19.17 (max)	45.1

RMS %
 Error
 5.94

Life Prediction Ratio Summary

RMS %
 Error
 14.64

Life Prediction Ratio Summary

Figure 8.7.3.1.56

Condition/Ht: T74511

Form: 0.75 - 1.5 in. Extrusion

Specimen Type: CT

Orientation: L-T

Stress Ratio: 0.1

Environment: LAB AIR; RT

Yield Strength: 65.7 - 69.6 ksi

Ult. Strength: 78.8 ksi

Specimen Thk: 0.249 - 0.252 in.

Specimen Width: 2.001 - 2.007 in.

Ref: DA004;DA005

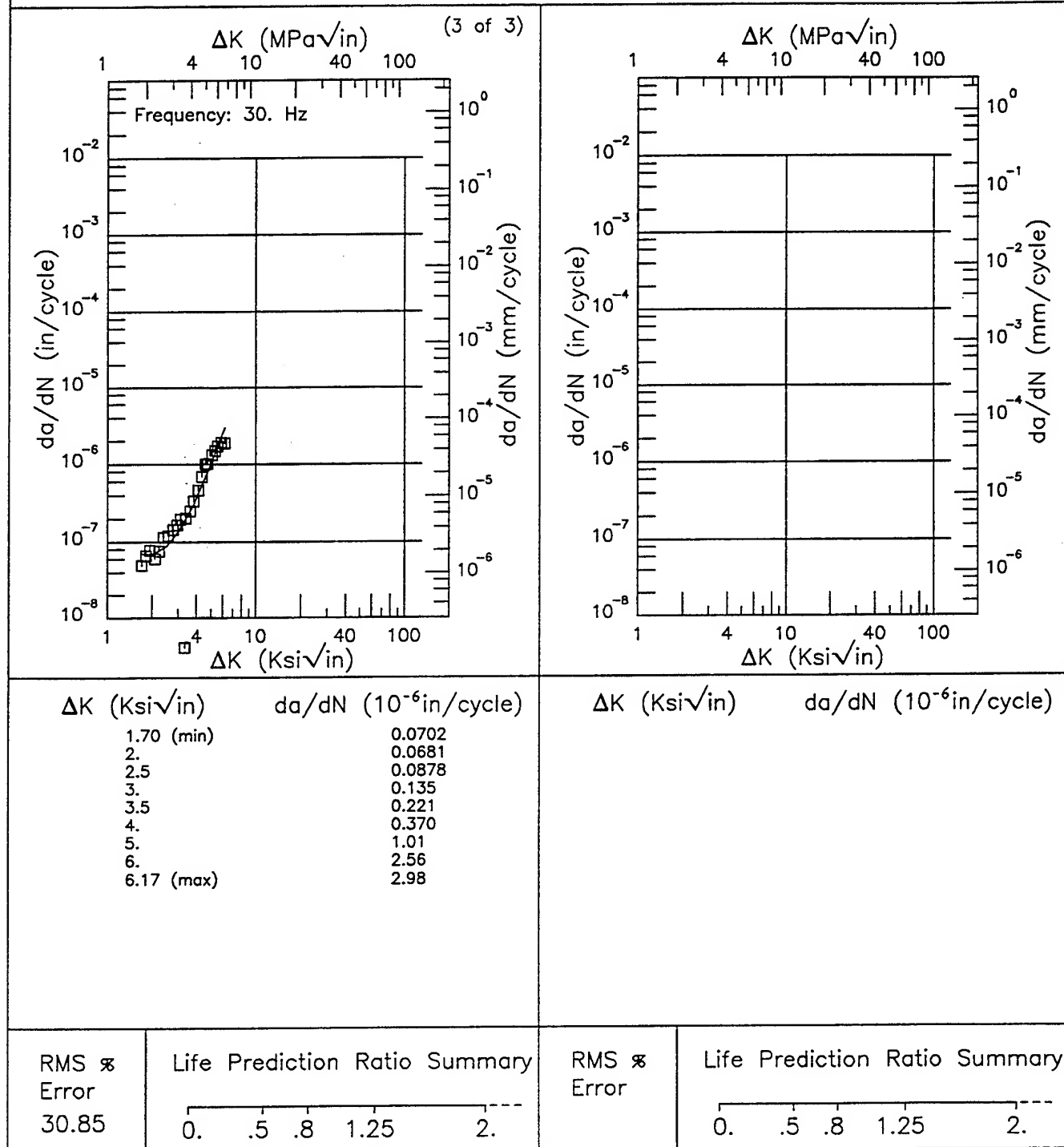
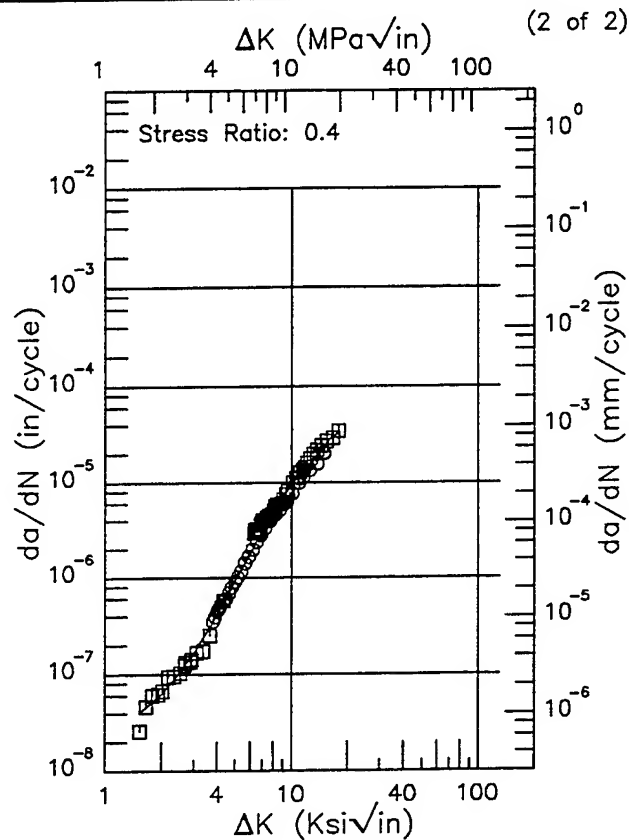
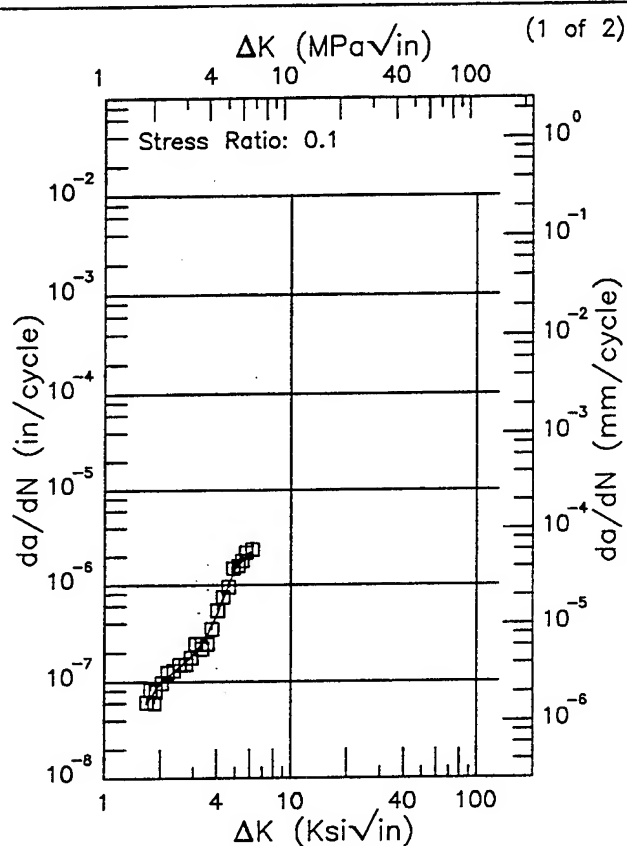


Figure 8.7.3.1.56 (Concluded)

R 7050
 Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 - 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.248 - 0.249 in.
 Specimen Width: 2.001 - 2.005 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.68 (min)	0.0596
2.	0.0960
2.5	0.139
3.	0.188
3.5	0.279
4.	0.476
5.	1.48
6.	2.23
6.16 (max)	2.17

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.53 (min)	0.0408
1.6	0.0433
2.	0.0624
2.5	0.102
3.	0.167
3.5	0.265
4.	0.410
5.	0.899
6.	1.78
7.	3.19
8.	5.13
9.	7.40
10.	9.71
13.	16.7
16.	28.6
17.91 (max)	33.2

RMS %
 Error
 10.76

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 15.20

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.157

Condition/Ht: T74511
 Form: 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.325 in.
 Specimen Width: 2 - 2.002 in.
 Ref: SW001

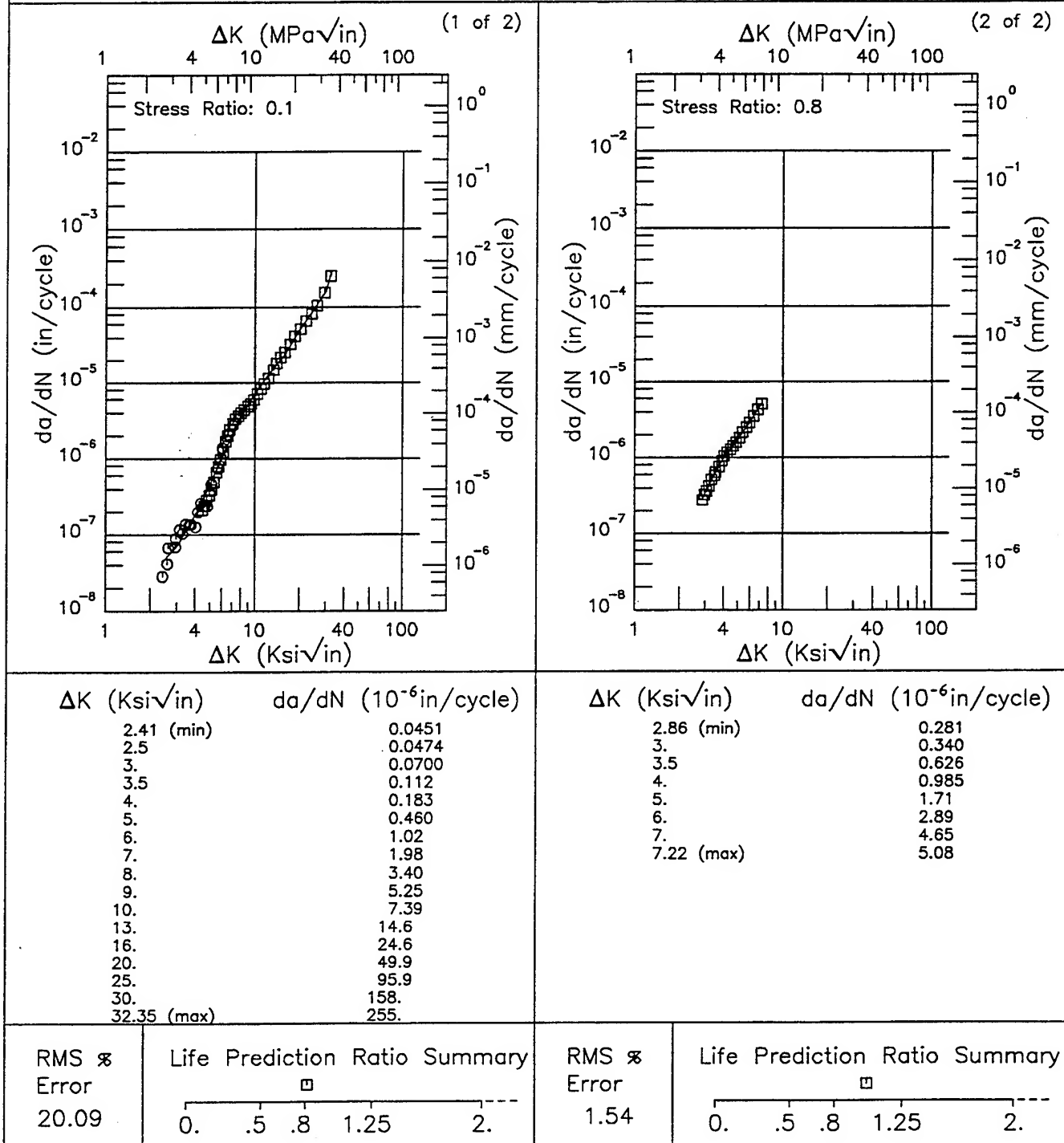
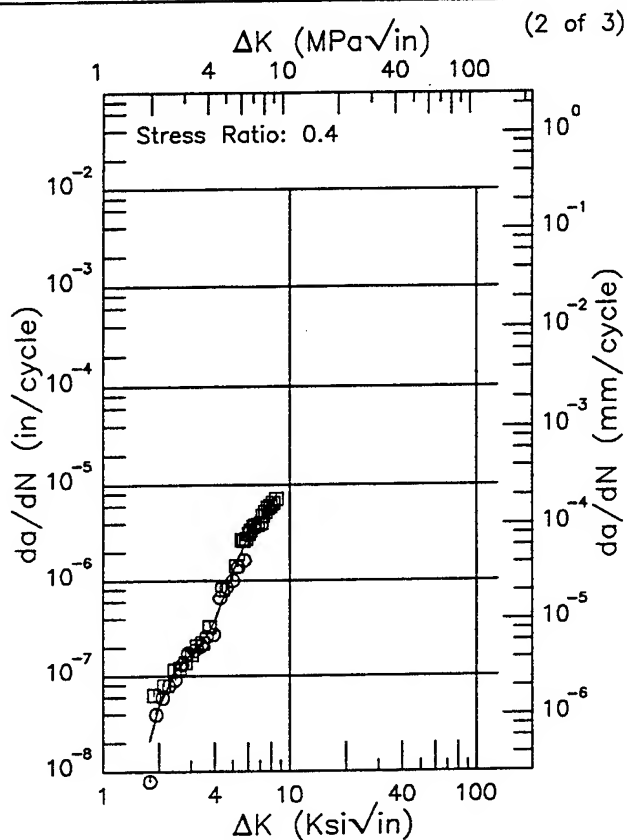
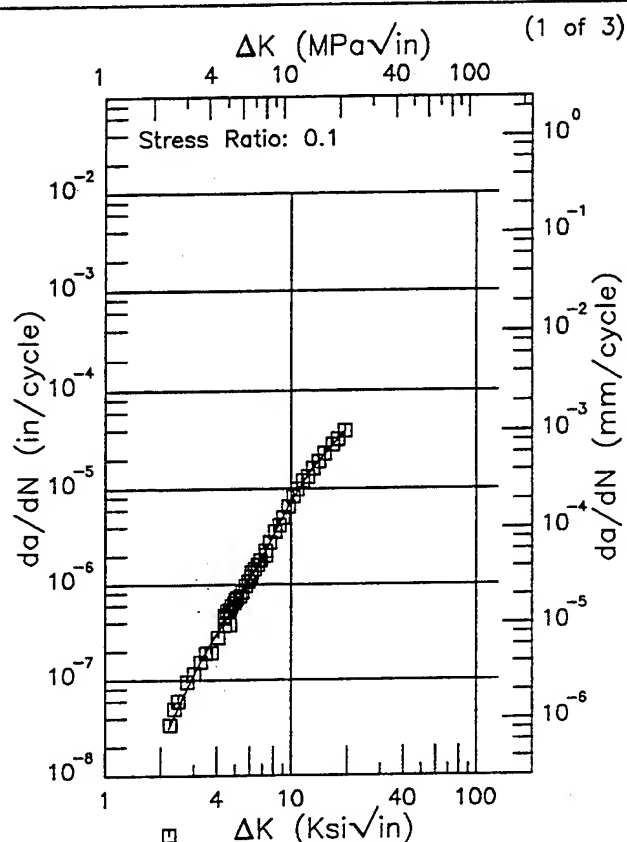


Figure 8.7.3.1.58

R 7050

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.248 - 0.249 in.
 Specimen Width: 2.004 - 2.006 in.
 Ref: DA005;DA004



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.21 (min)	0.0309
2.5	0.0542
3.	0.113
3.5	0.194
4.	0.301
5.	0.611
6.	1.11
7.	1.94
8.	3.24
9.	5.06
10.	7.38
13.	15.8
16.	25.5
19.44 (max)	38.7

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.78 (min)	0.0209
2.	0.0480
2.5	0.116
3.	0.172
3.5	0.242
4.	0.380
5.	1.23
6.	2.99
7.	4.39
8.	5.97
8.46 (max)	7.53

RMS %
 Error
 16.15

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 23.55

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.59

Condition/Ht: T74511

Form: 0.75 - 1.5 in. Extrusion

Specimen Type: CT

Orientation: L-T

Frequency: 20 Hz

Environment: LAB AIR; RT

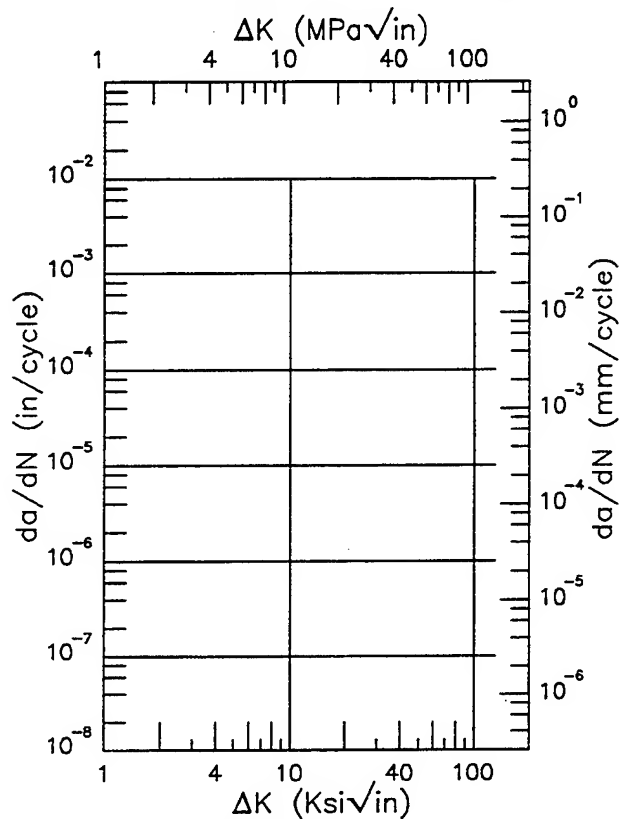
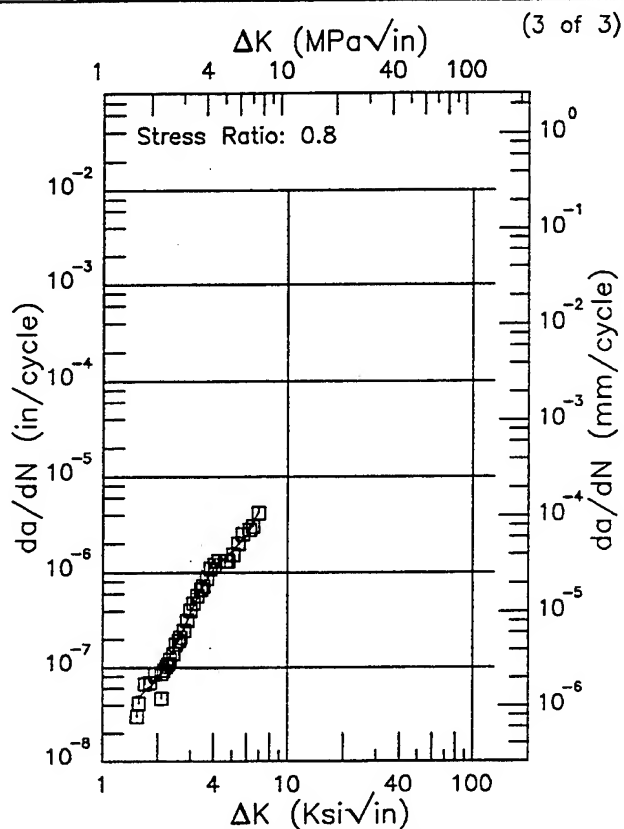
Yield Strength: 66.7 - 69.6 ksi

Ult. Strength: 78.8 ksi

Specimen Thk: 0.248 - 0.249 in.

Specimen Width: 2.004 - 2.006 in.

Ref: DA005;DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
1.53 (min)	0.0491
1.6	0.0498
2.	0.0761
2.5	0.173
3.	0.379
3.5	0.708
4.	1.10
5.	1.69
6.	2.42
6.95 (max)	4.33

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
--------------------------------------	-----------------------------------

RMS %
Error
13.89

Life Prediction Ratio Summary

□

0. .5 .8 1.25 2.

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

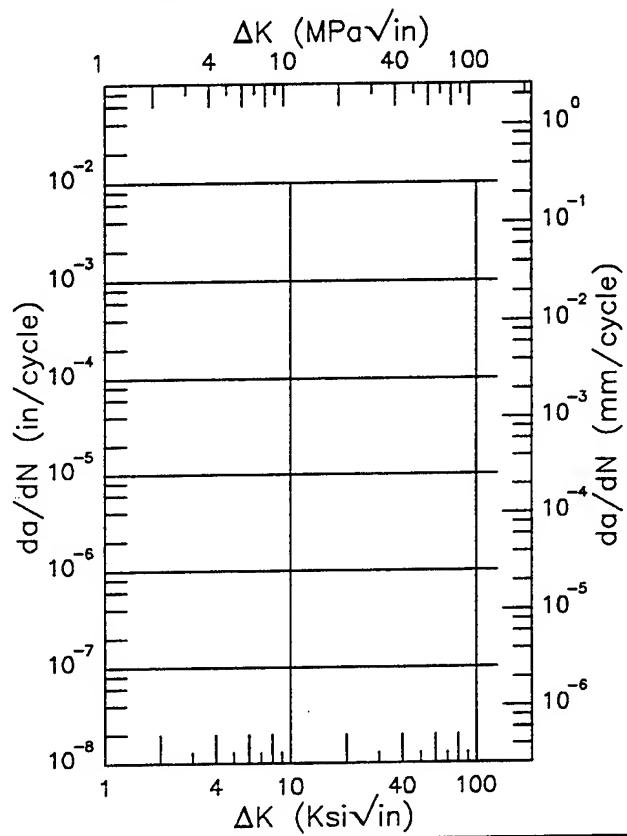
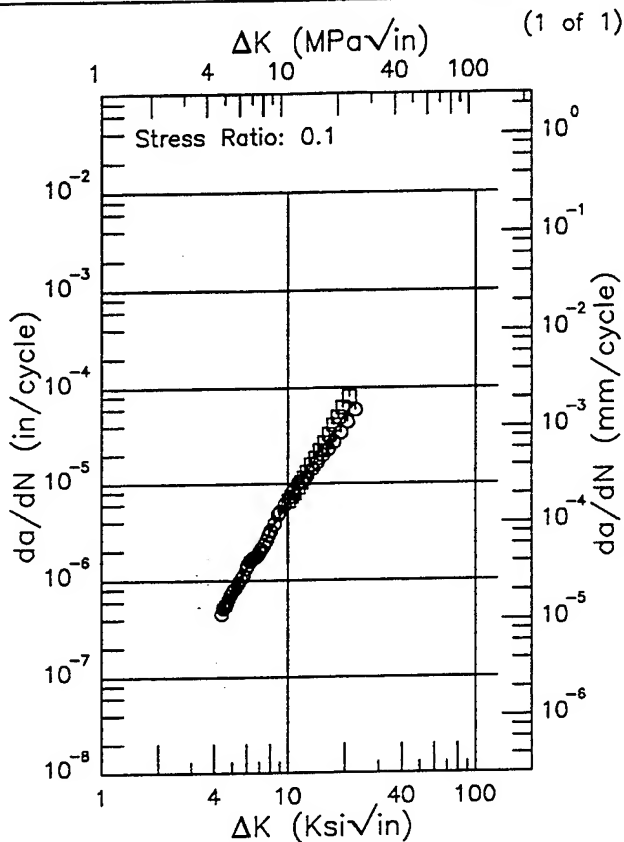
Figure 8.7.3.1.59 (Concluded)

R

7050

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: DIST WATER; RT

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.251 in.
 Specimen Width: 2 - 2.006 in.
 Ref: DA004;DA005



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.37 (min)	0.476
5.	0.735
6.	1.30
7.	2.11
8.	3.18
9.	4.57
10.	6.33
13.	14.3
16.	27.5
20.	52.1
22.54 (max)	69.4

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 11.05

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.60

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EF

7050

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 2 - 2.007 in.
 Ref: DA005;DA004

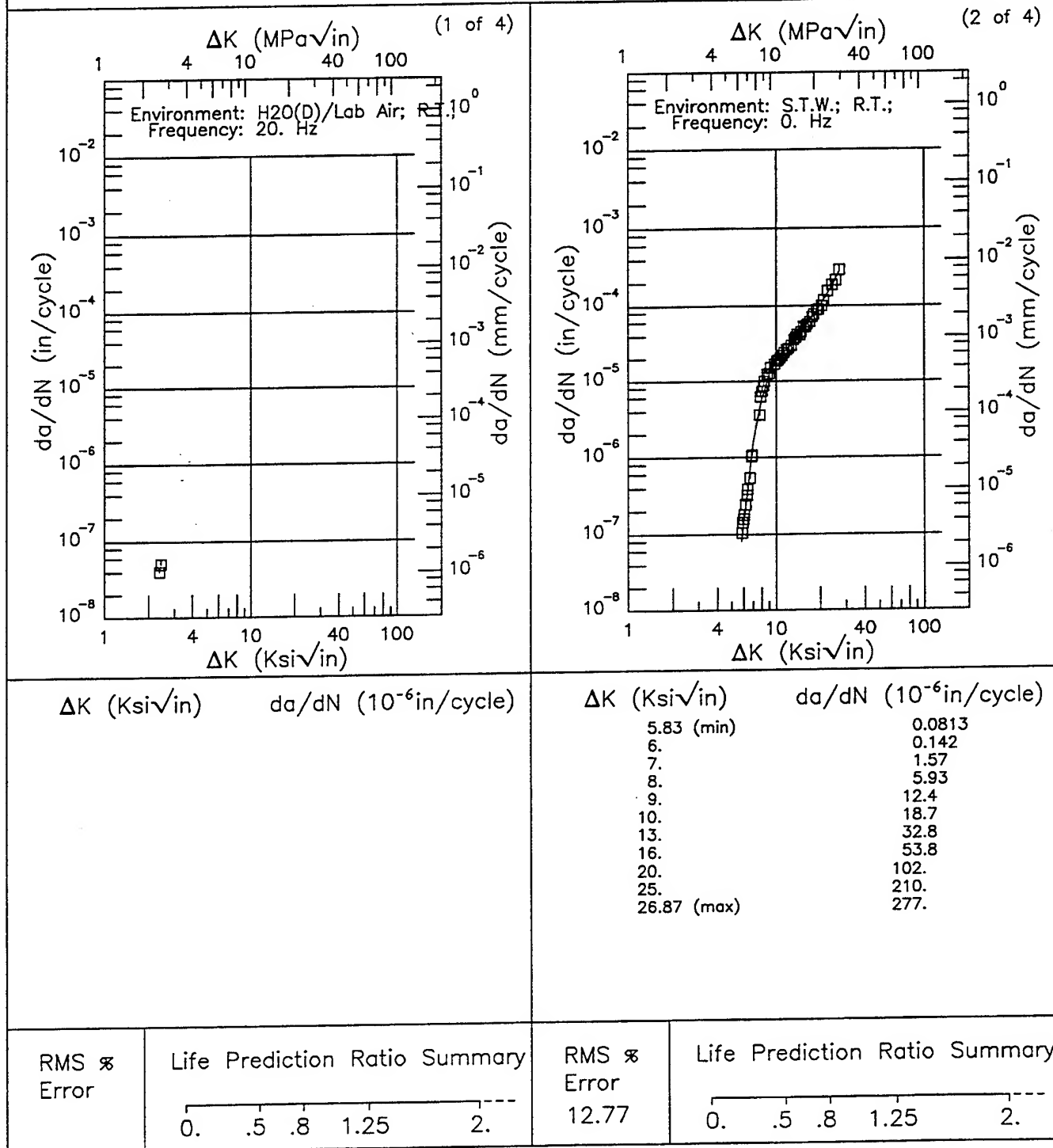
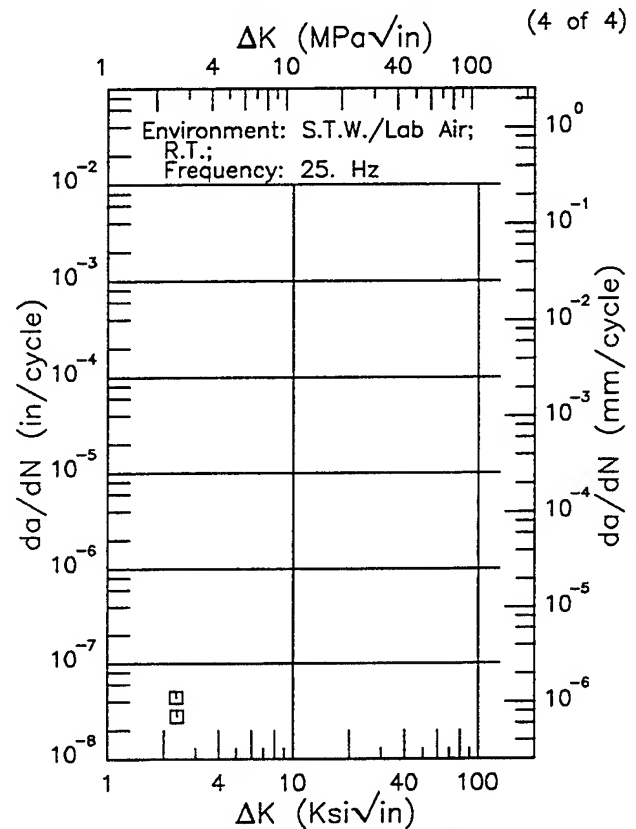
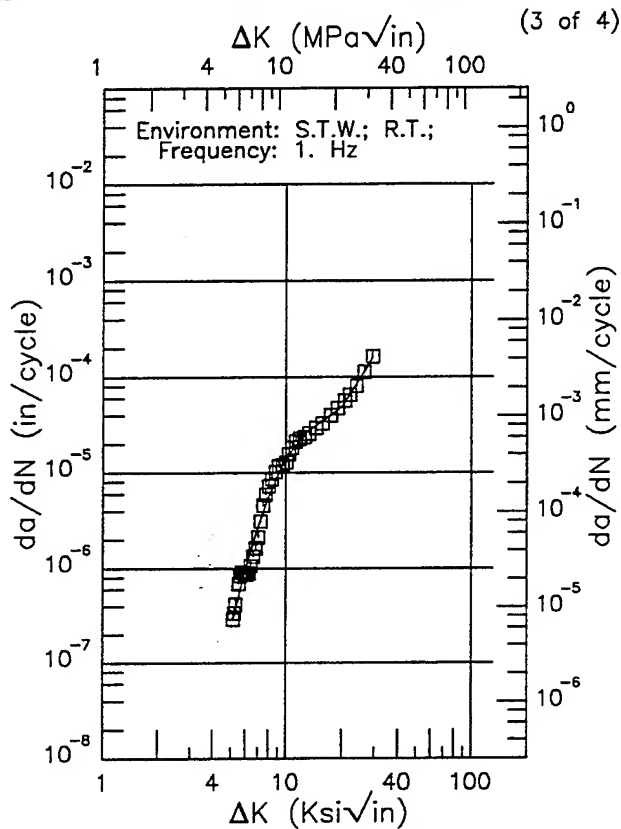


Figure 8.7.3.1.61

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 2 - 2.007 in.
 Ref: DA005;DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.14 (min)	0.289
6.	0.969
7.	2.67
8.	5.52
9.	9.39
10.	13.9
13.	26.9
16.	35.0
20.	48.8
25.	96.2
29.21 (max)	159.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 18.06

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

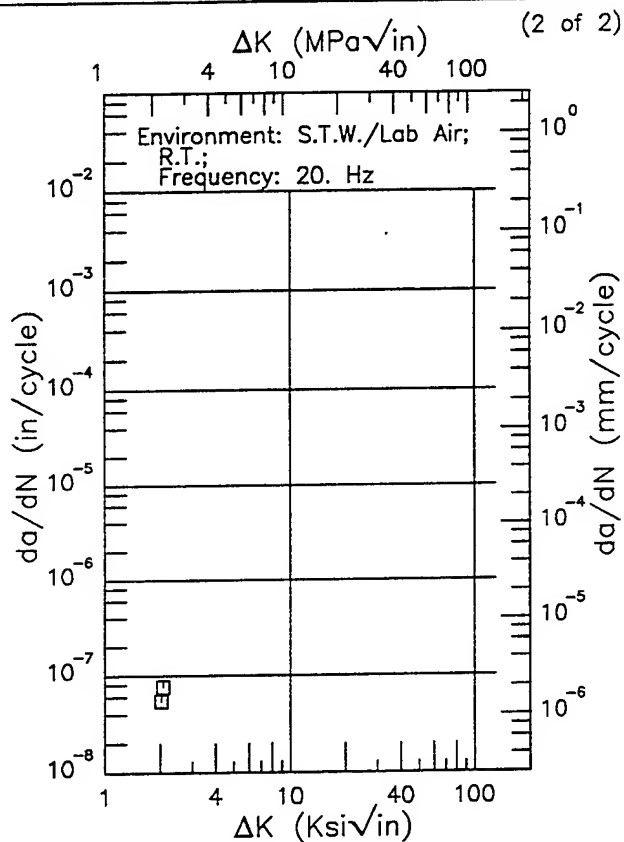
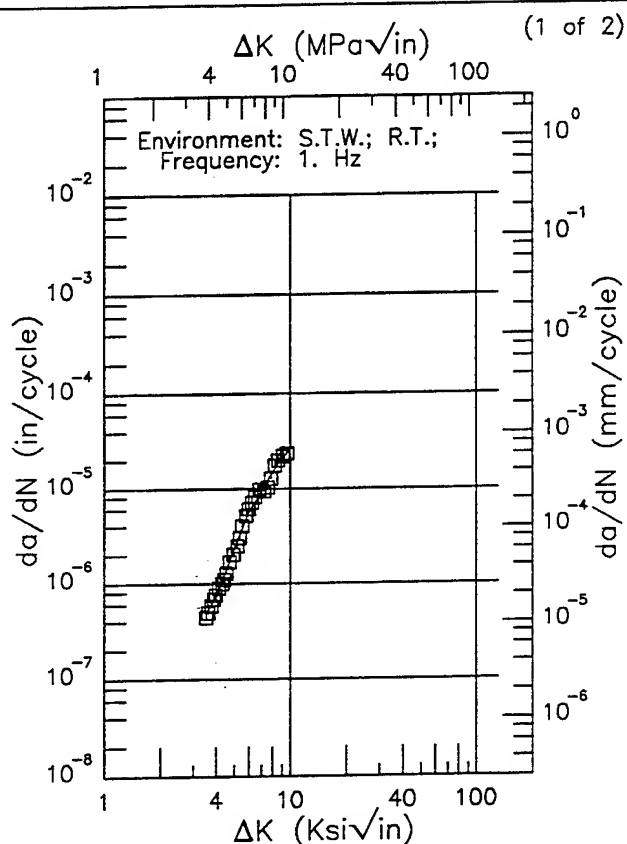
 0. .5 .8 1.25 2.

Figure 8.7.3.1.61 (Concluded)

EF 7050

Condition/Ht: T74511
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4

Yield Strength: 66.7 ksi
 Ult. Strength:
 Specimen Thk: 0.249 in.
 Specimen Width: 2.006 in.
 Ref: DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.53 (min)	0.502
4.	0.716
5.	2.32
6.	5.63
7.	9.56
8.	14.9
9.	21.2
9.60 (max)	23.8

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 8.56

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.62

Condition/Ht: T74511
 Form: 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.5
 Environment: LAB AIR; RT

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.323 in.
 Specimen Width: 2 in.
 Ref: SW001

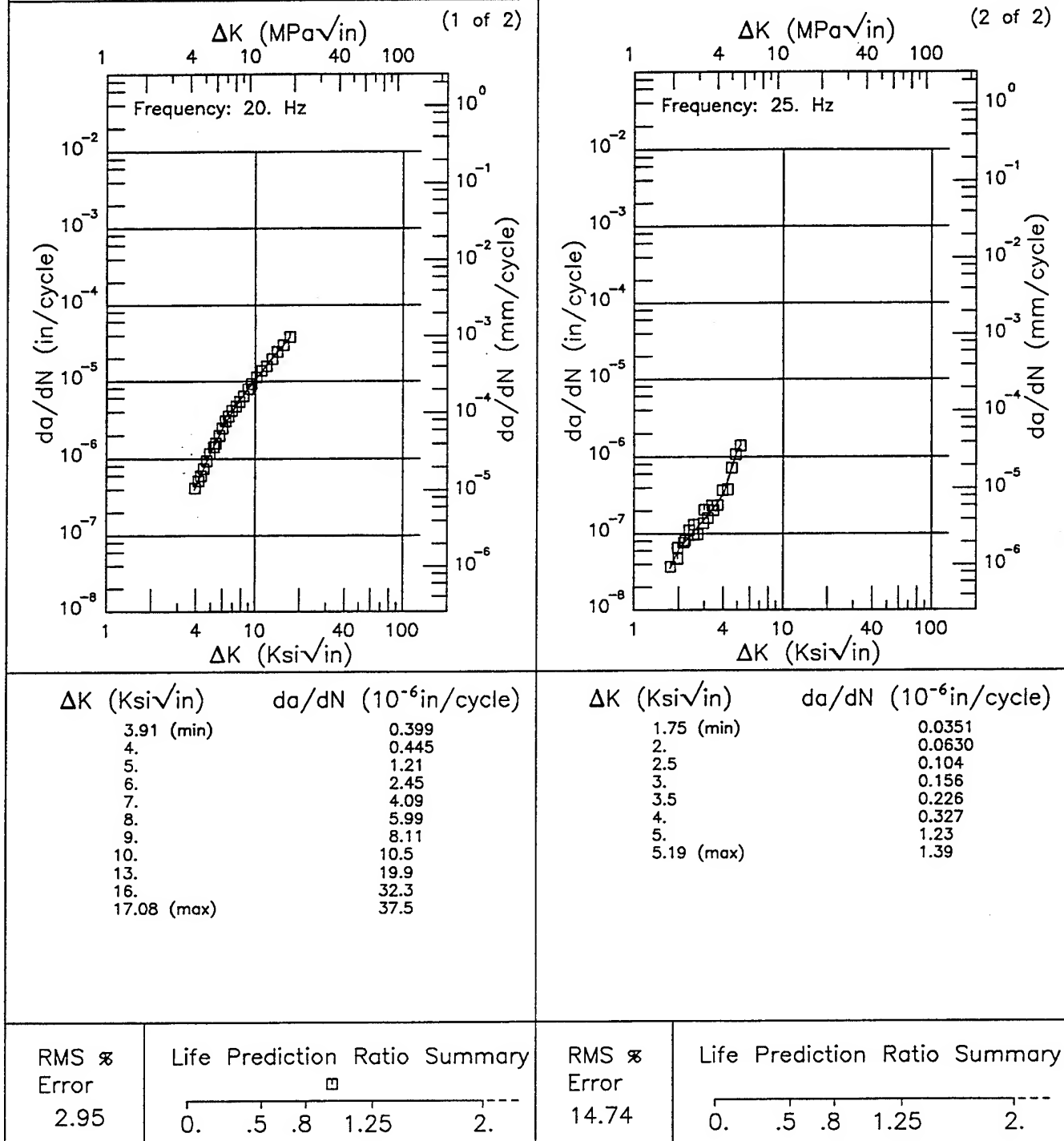
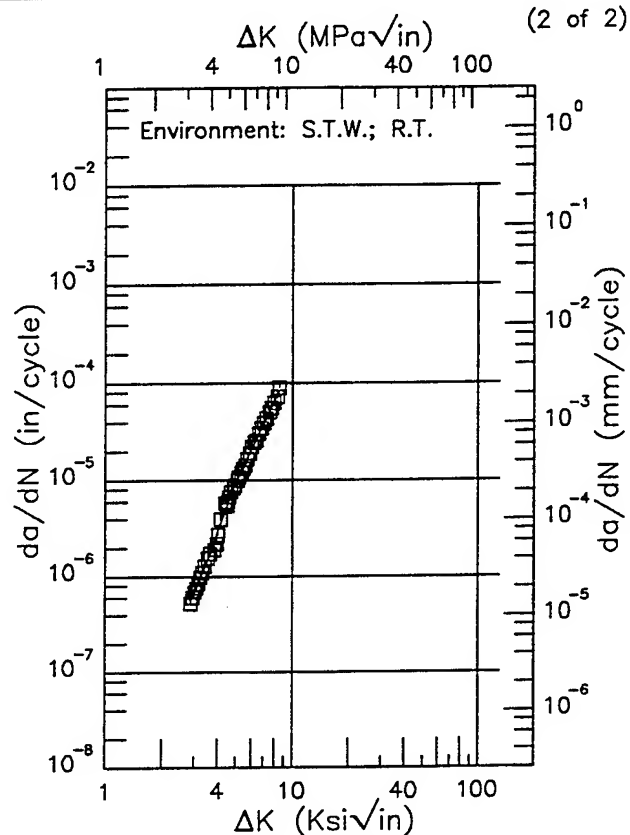
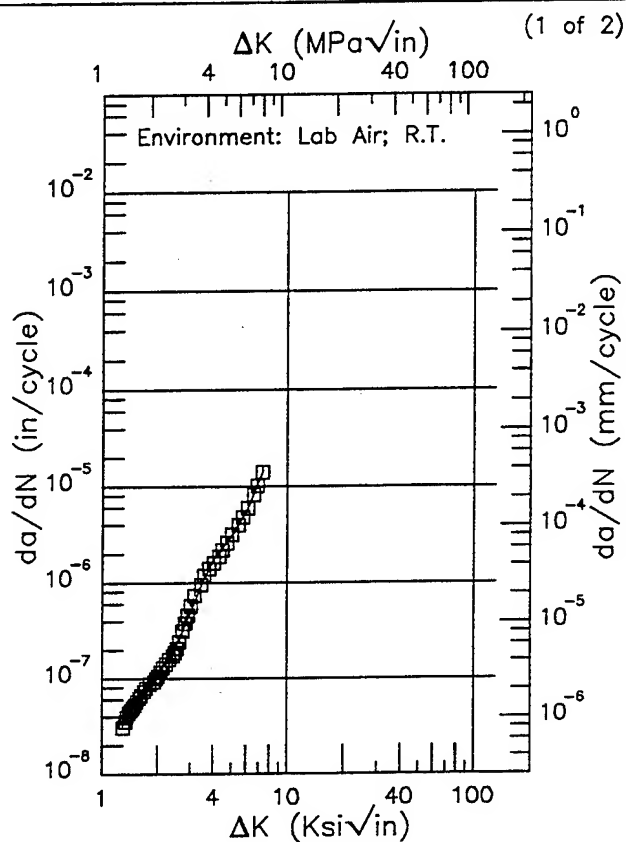


Figure 8.7.3.1.63

E 7050
 Condition/Ht: T74511
 Form: 0.75 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.8
 Frequency:

Yield Strength: 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 2 in.
 Ref: DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.29 (min)	0.0351
1.3	0.0358
1.6	0.0596
2.	0.108
2.5	0.225
3.	0.486
3.5	0.995
4.	1.72
5.	3.03
6.	5.36
7.	11.4
7.31 (max)	13.5

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.85 (min)	0.566
3.	0.674
3.5	1.38
4.	2.91
5.	9.49
6.	20.5
7.	38.0
8.	65.8
8.49 (max)	83.5

RMS \propto
 Error
 7.86

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \propto
 Error
 6.87

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.64

Condition/Ht: T74511
 Form: 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.321 in.
 Specimen Width: 2 in.
 Ref: SW001

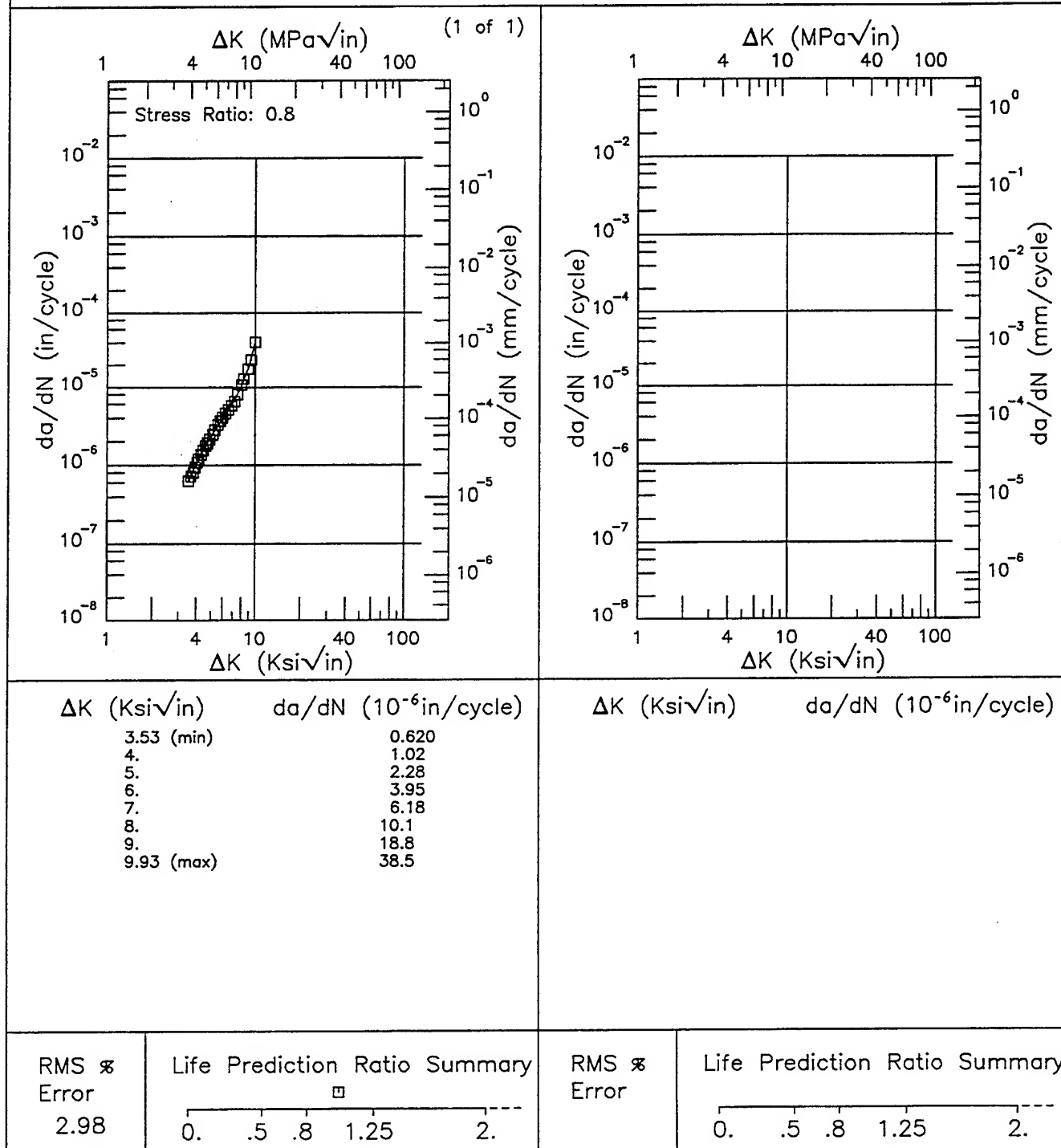


Figure 8.7.3.1.65

7050

E

Condition/Ht: T74511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.8
 Frequency: 1 Hz

Yield Strength: 66.7 - 69.6 ksi
 Ult. Strength: 78.8 ksi
 Specimen Thk: 0.249 - 0.251 in.
 Specimen Width: 2 - 2.007 in.
 Ref: DA004;DA005

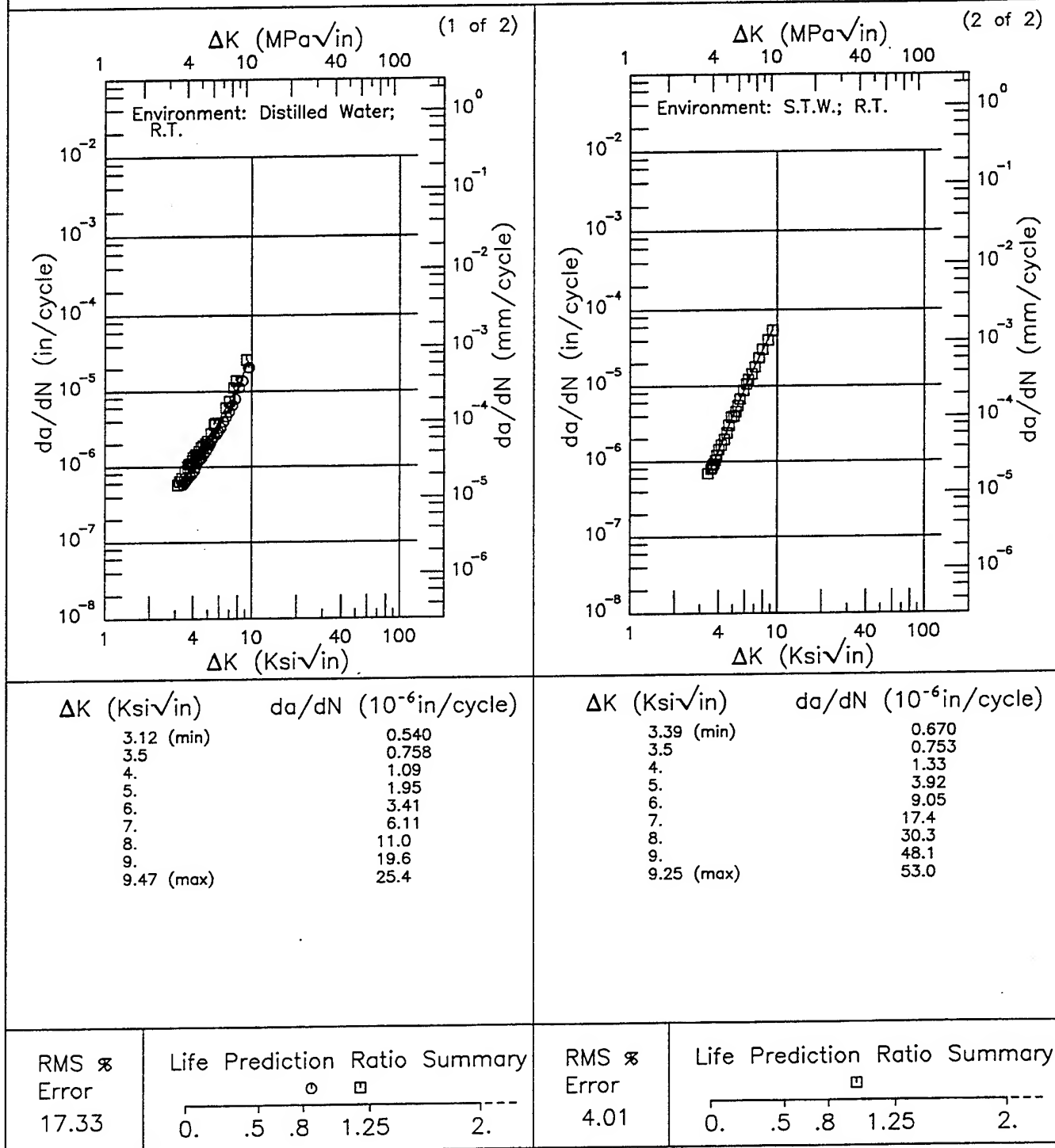
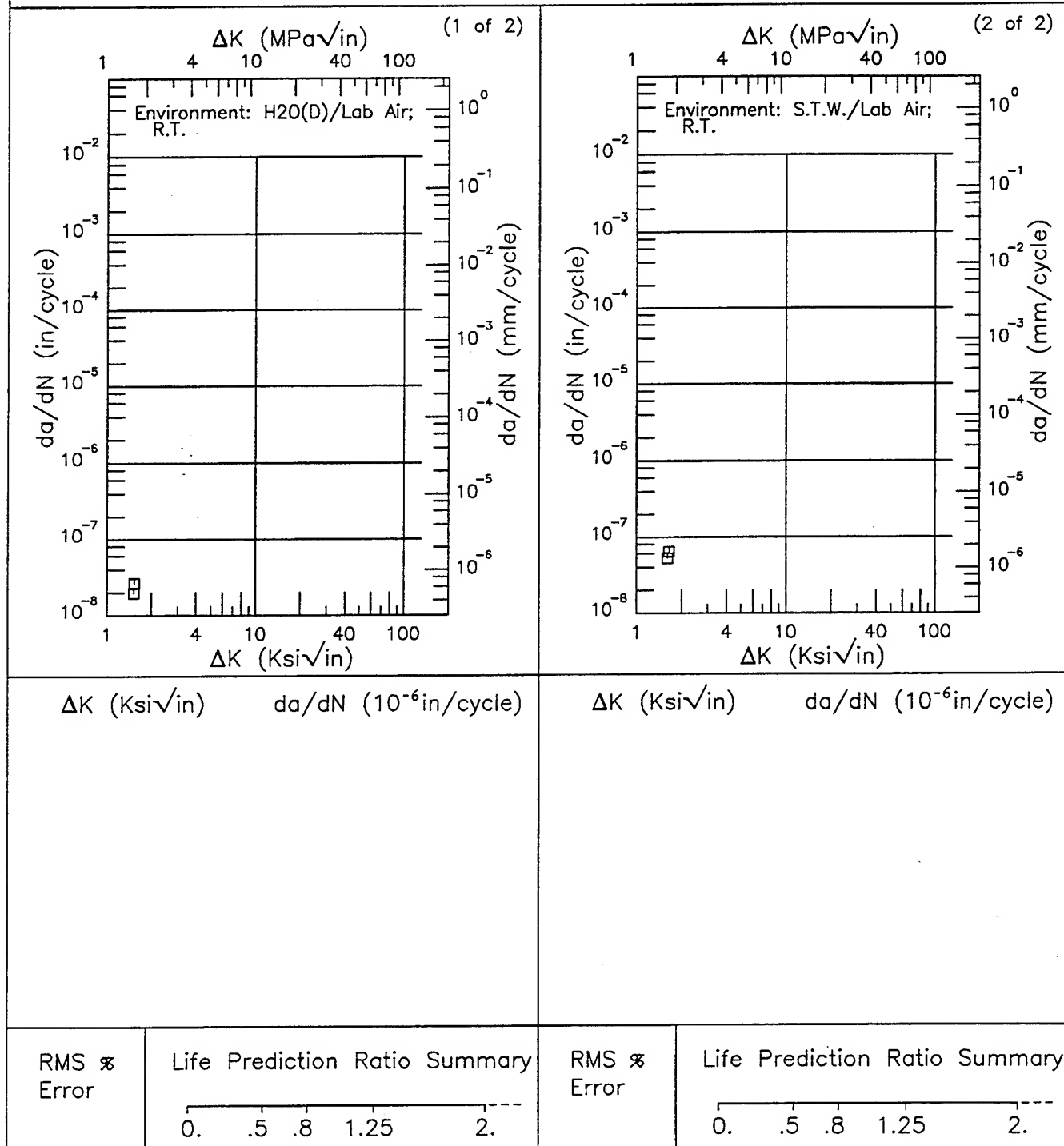


Figure 8.7.3.1.66

Yield Strength: 66.7 ksi
Ult. Strength:
Specimen Thk: 0.25 - 0.251 in.
Specimen Width: 2.006 - 2.007 in.
Ref: DA005



7050

Condition/Ht: T74511
Form: 0.75 in. Extrusion
Specimen Type: CCP (max load specified)
Orientation: L-T
Frequency: 3 - 5 Hz
Environment: LAB AIR; RT

Yield Strength: 69.6 ksi
Ult. Strength: 78.8 ksi
Specimen Thk: 0.19 in.
Specimen Width: 10.024 in.
Ref: DA004

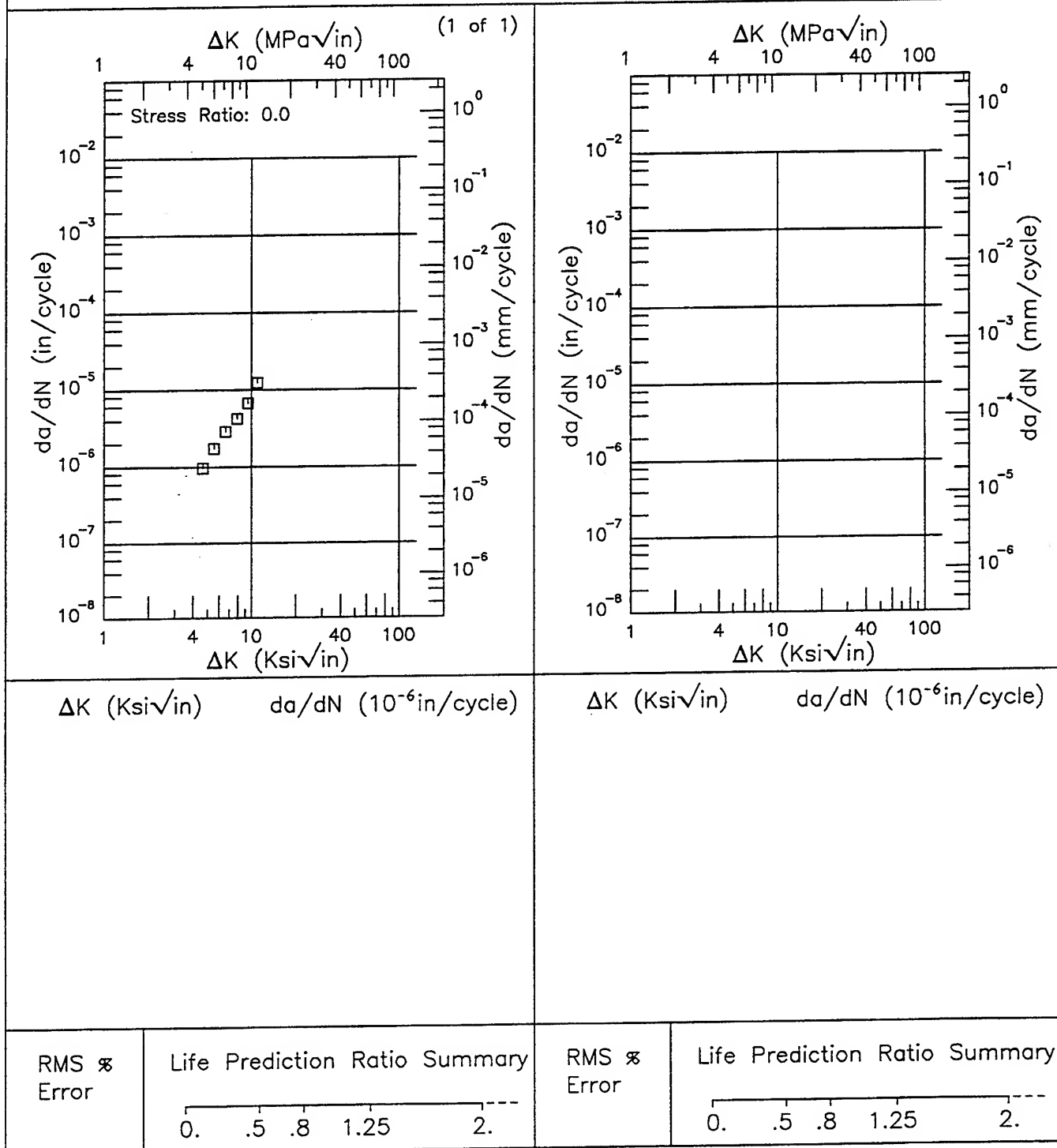


Figure 8.7.3.1.68

Condition/Ht: T74511

Form: 0.75 in. Extrusion

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 10 Hz

Environment: LAB AIR; RT

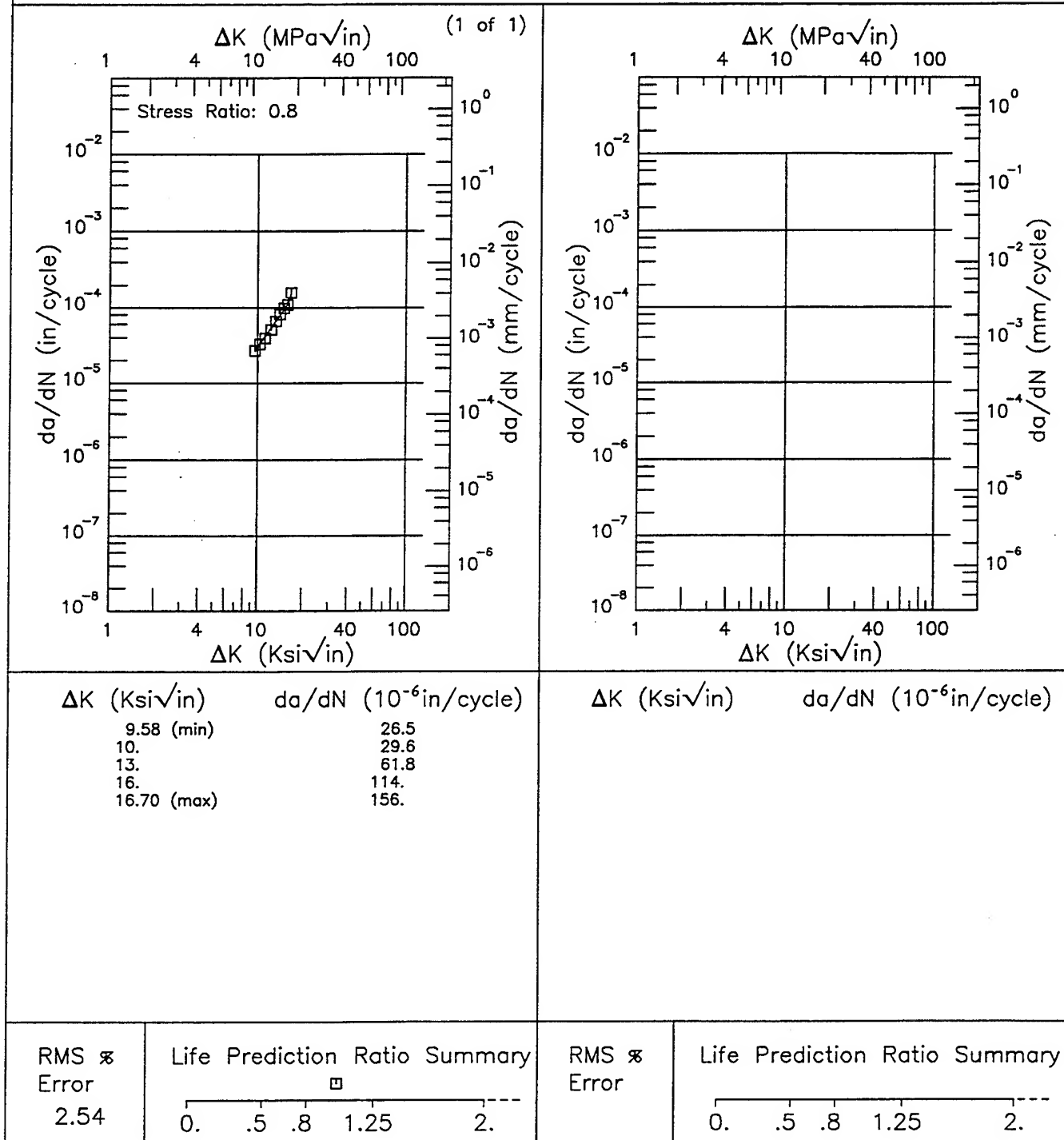
Yield Strength: 69.6 ksi

Ult. Strength: 78.8 ksi

Specimen Thk: 0.19 in.

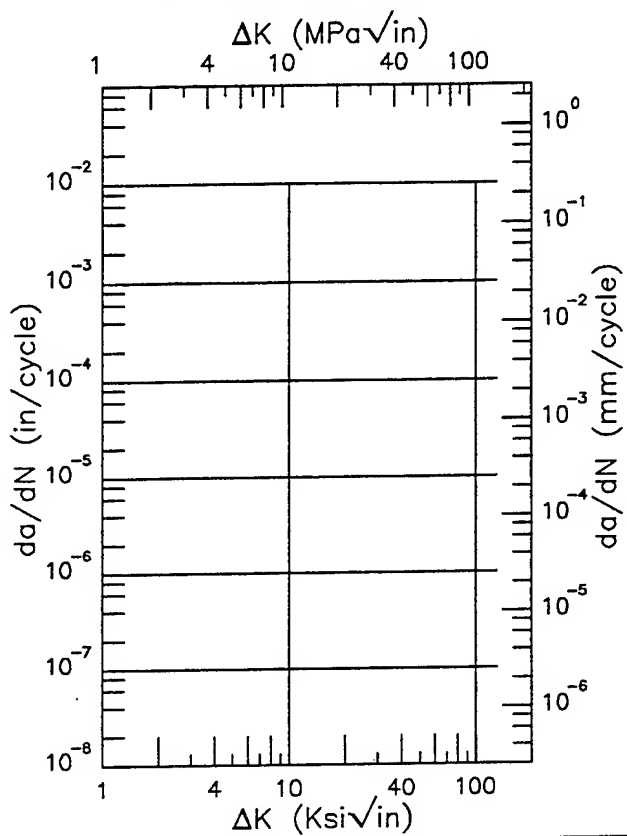
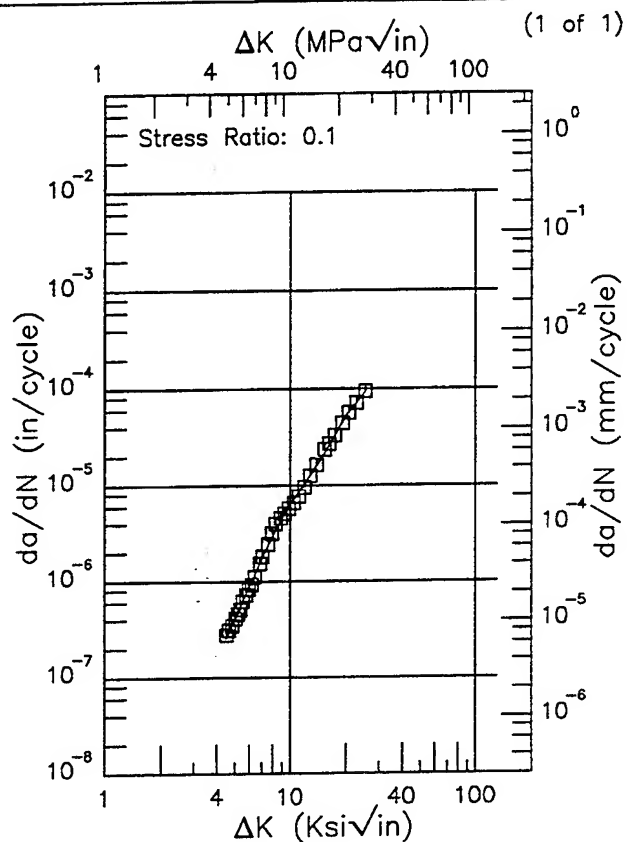
Specimen Width: 10.024 in.

Ref: DA004



R 7050
 Condition/Ht: T745111
 Form: 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT


Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.325 in.
 Specimen Width: 2 in.
 Ref: SW001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.48 (min)	0.255
5.	0.402
6.	0.885
7.	1.72
8.	2.95
9.	4.55
10.	6.37
13.	12.9
16.	24.9
20.	52.8
25.	89.8
25.33 (max)	93.8

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 5.74

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error


Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.70

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 73.4 ksi
 Ult. Strength: 80.4 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 1.999 - 2 in.
 Ref: DA004

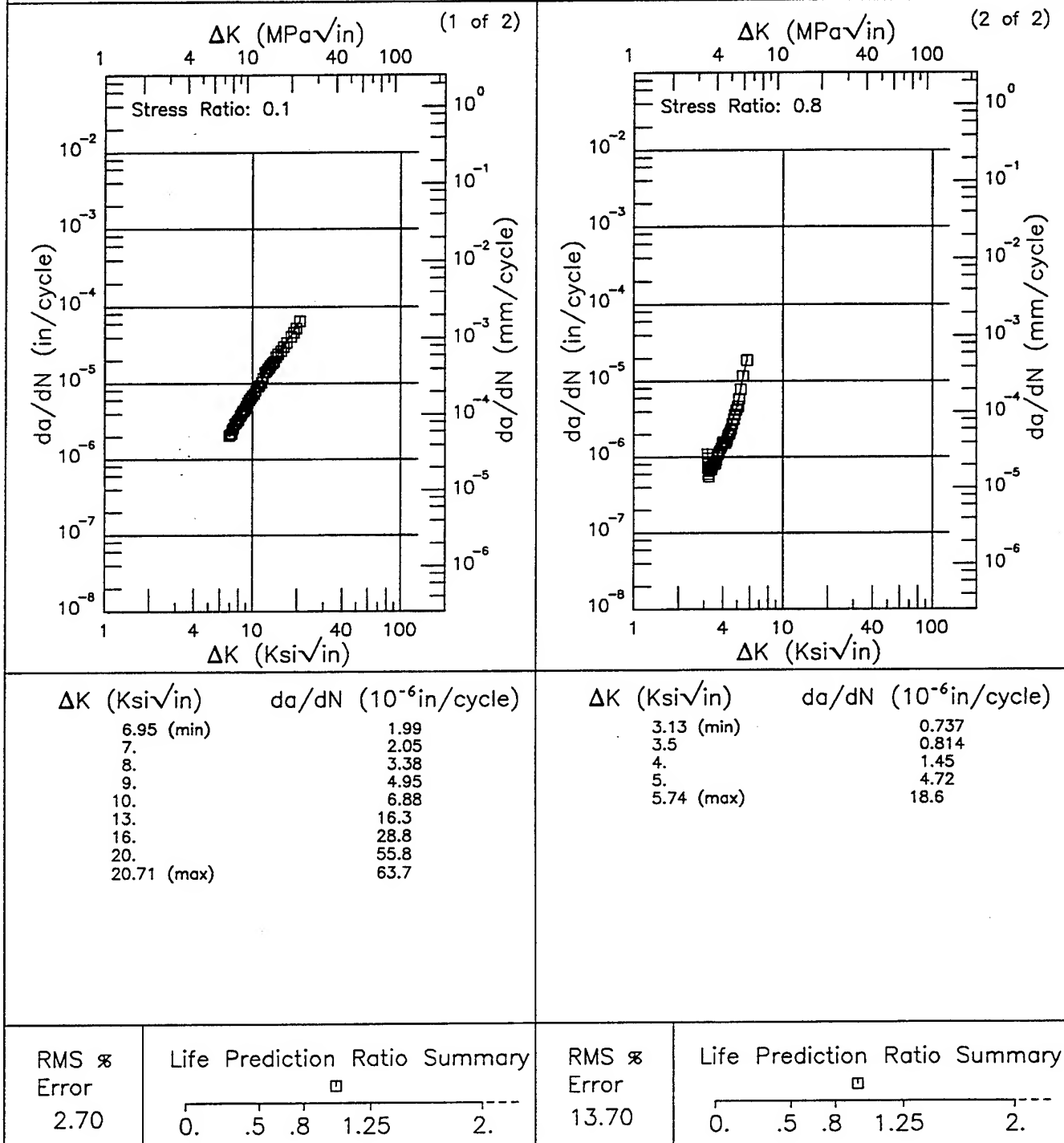


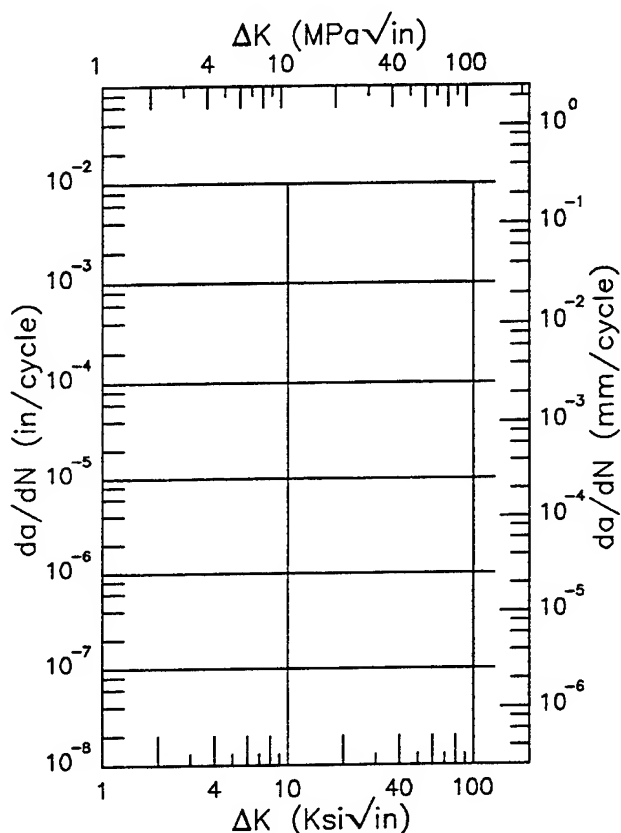
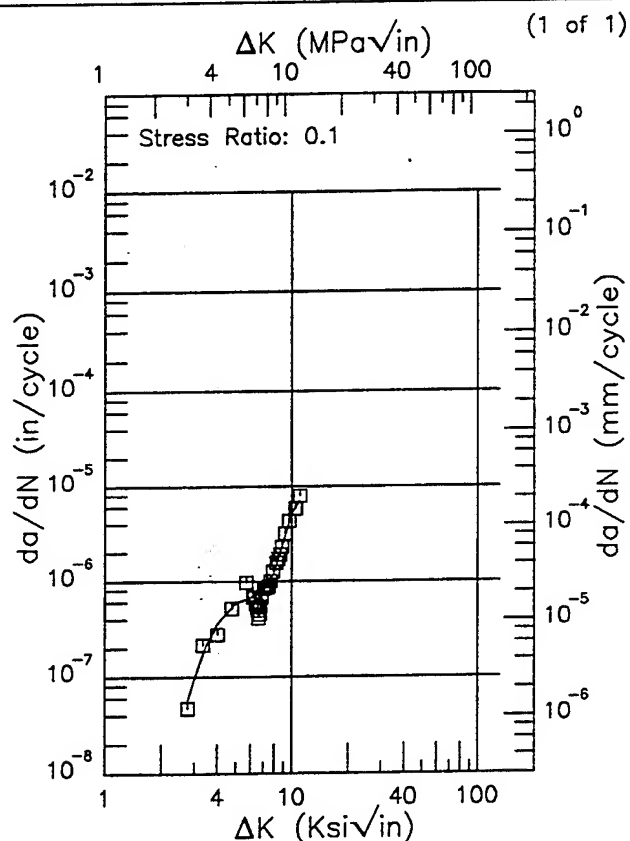
Figure 8.7.3.1.71

R

7050

Condition/Ht: T7452
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 72.2 ksi
 Ult. Strength:
 Specimen Thk: 0.253 in.
 Specimen Width: 2.005 in.
 Ref: DA005

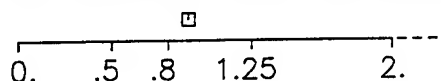


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
2.76 (min)	0.0536
3.	0.0936
3.5	0.214
4.	0.357
5.	0.582
6.	0.671
7.	0.787
8.	1.22
9.	2.59
10.	5.20
10.97 (max)	7.05

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10⁻⁶ in/cycle)

RMS %
 Error
 20.37

Life Prediction Ratio Summary



RMS %
 Error

Life Prediction Ratio Summary

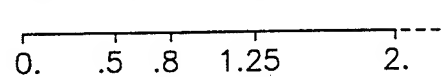


Figure 8.7.3.1.72

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 - 15 Hz
 Environment: LAB AIR; RT

Yield Strength: 70.3 - 73.4 ksi
 Ult. Strength: 80.4 ksi
 Specimen Thk: 0.249 - 0.251 in.
 Specimen Width: 2 - 2.008 in.
 Ref: DA004;DA005

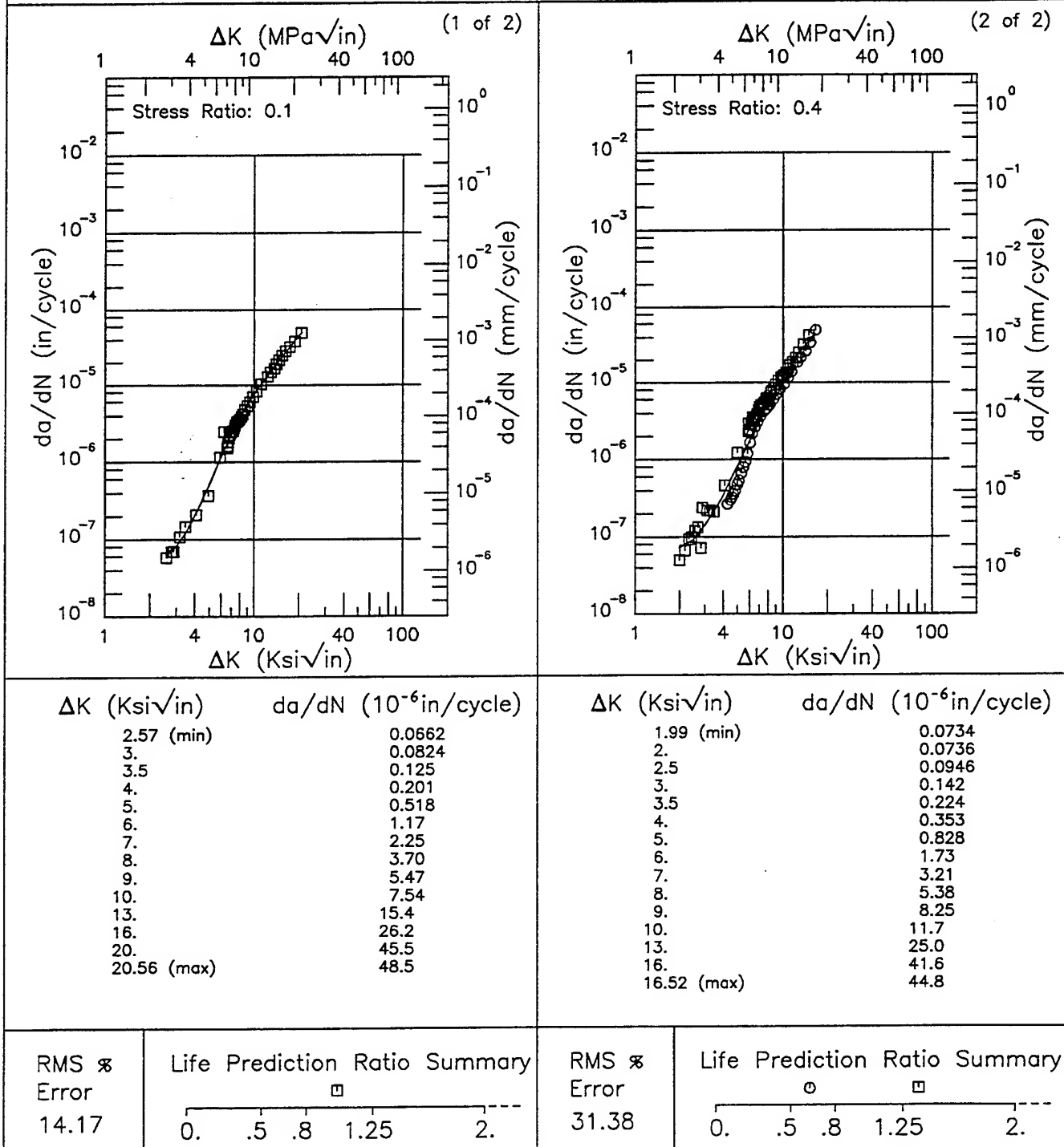


Figure 8.7.3.1.73

R

7050

Condition/Ht: T7452

Form: Forging

Specimen Type: CT

Orientation: L-T

Frequency: 20 Hz

Environment: LAB AIR; RT

Yield Strength: 70.3 - 72.2 ksi

Ult. Strength:

Specimen Thk: 0.247 - 0.251 in.

Specimen Width: 2.007 - 2.008 in.

Ref: DA005

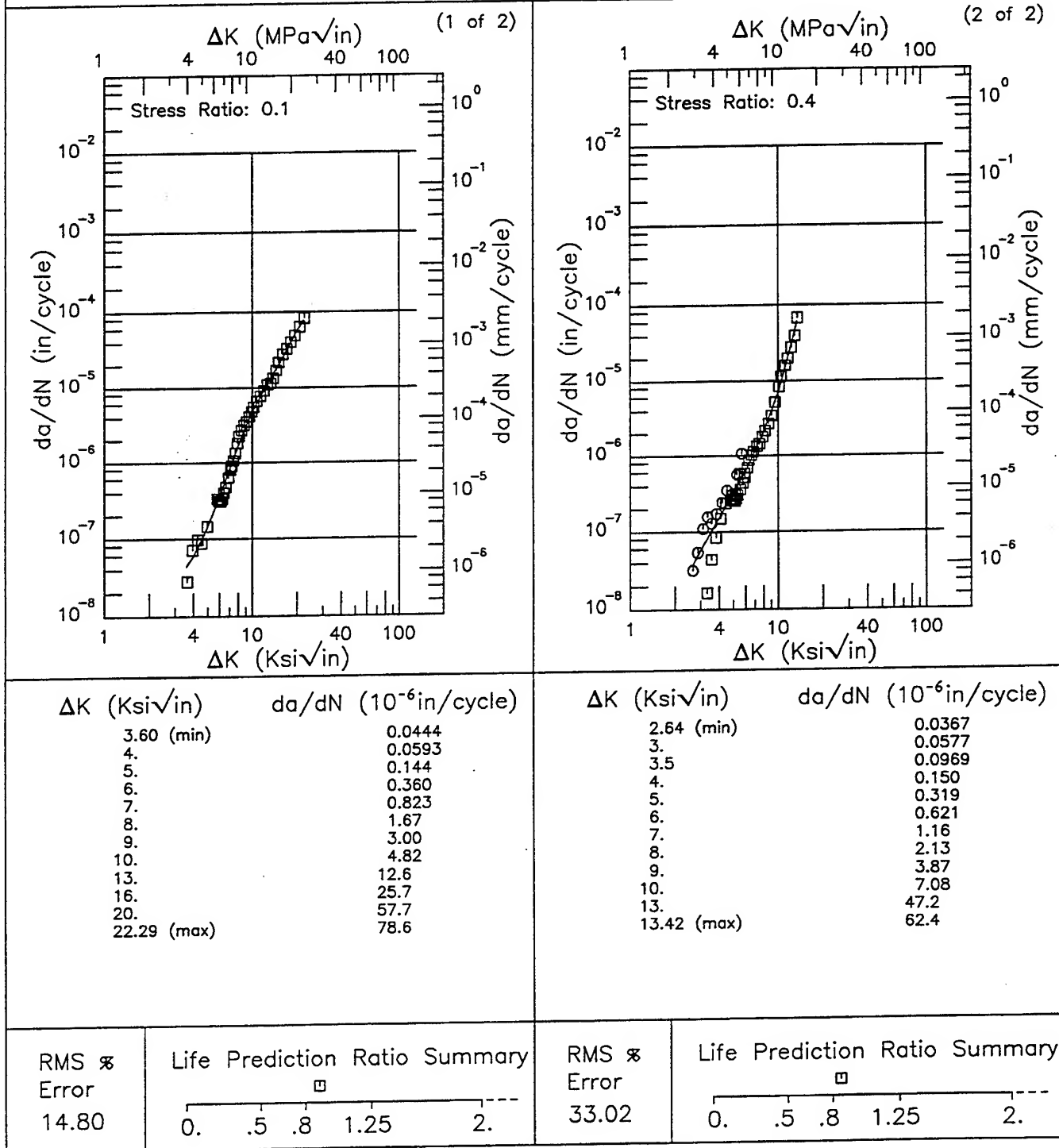


Figure 8.7.3.1.74

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: DIST WATER; RT

Yield Strength: 70.3 - 73.4 ksi
 Ult. Strength: 80.4 ksi
 Specimen Thk: 0.247 - 0.25 in.
 Specimen Width: 1.996 - 2.008 in.
 Ref: DA004;DA005

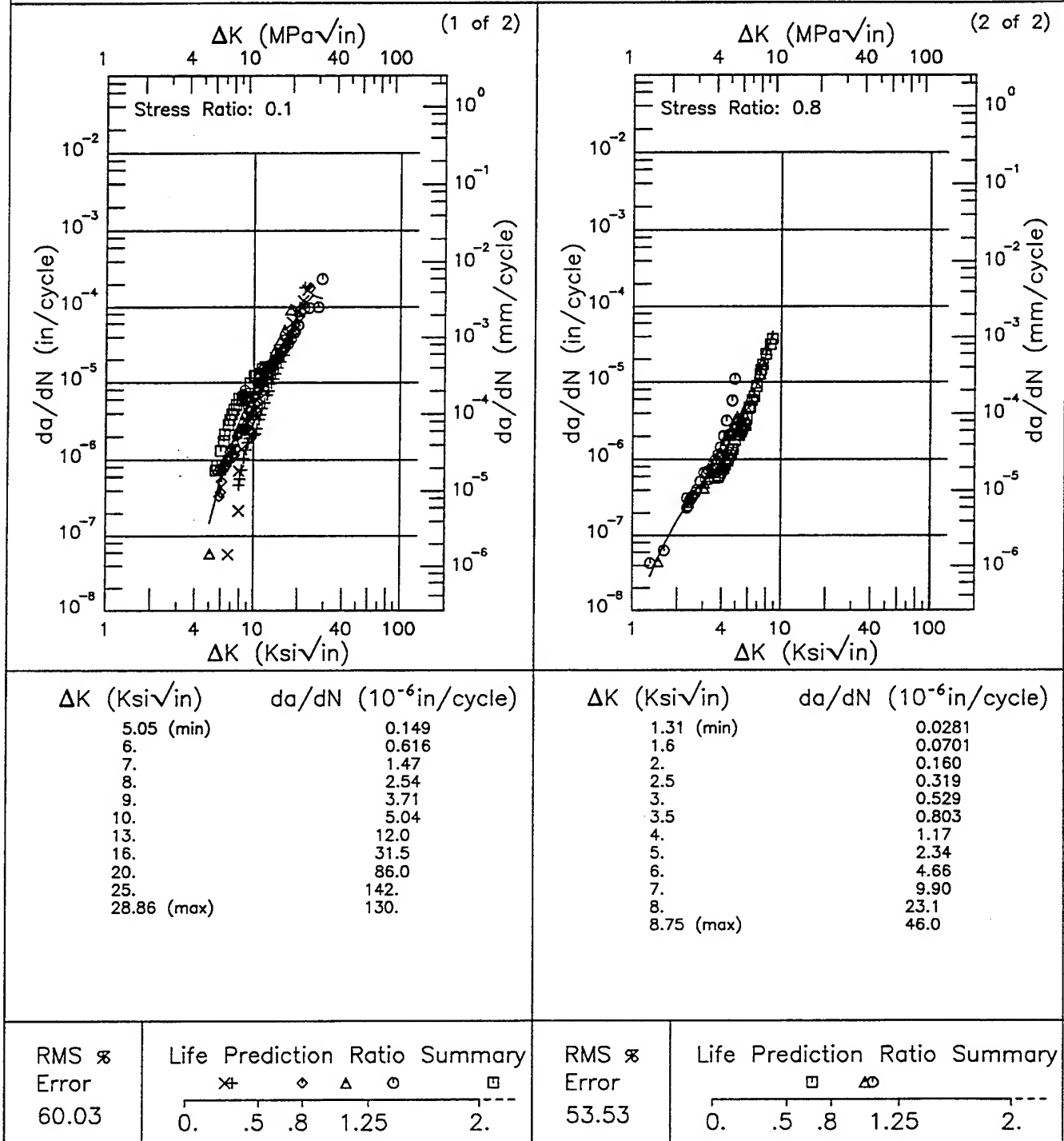


Figure 8.7.3.1.75

EF 7050

Condition/Ht: T7452
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1

Yield Strength: 70.3 – 72.2 ksi
 Ult. Strength:
 Specimen Thk: 0.247 in.
 Specimen Width: 2.008 in.
 Ref: DA005

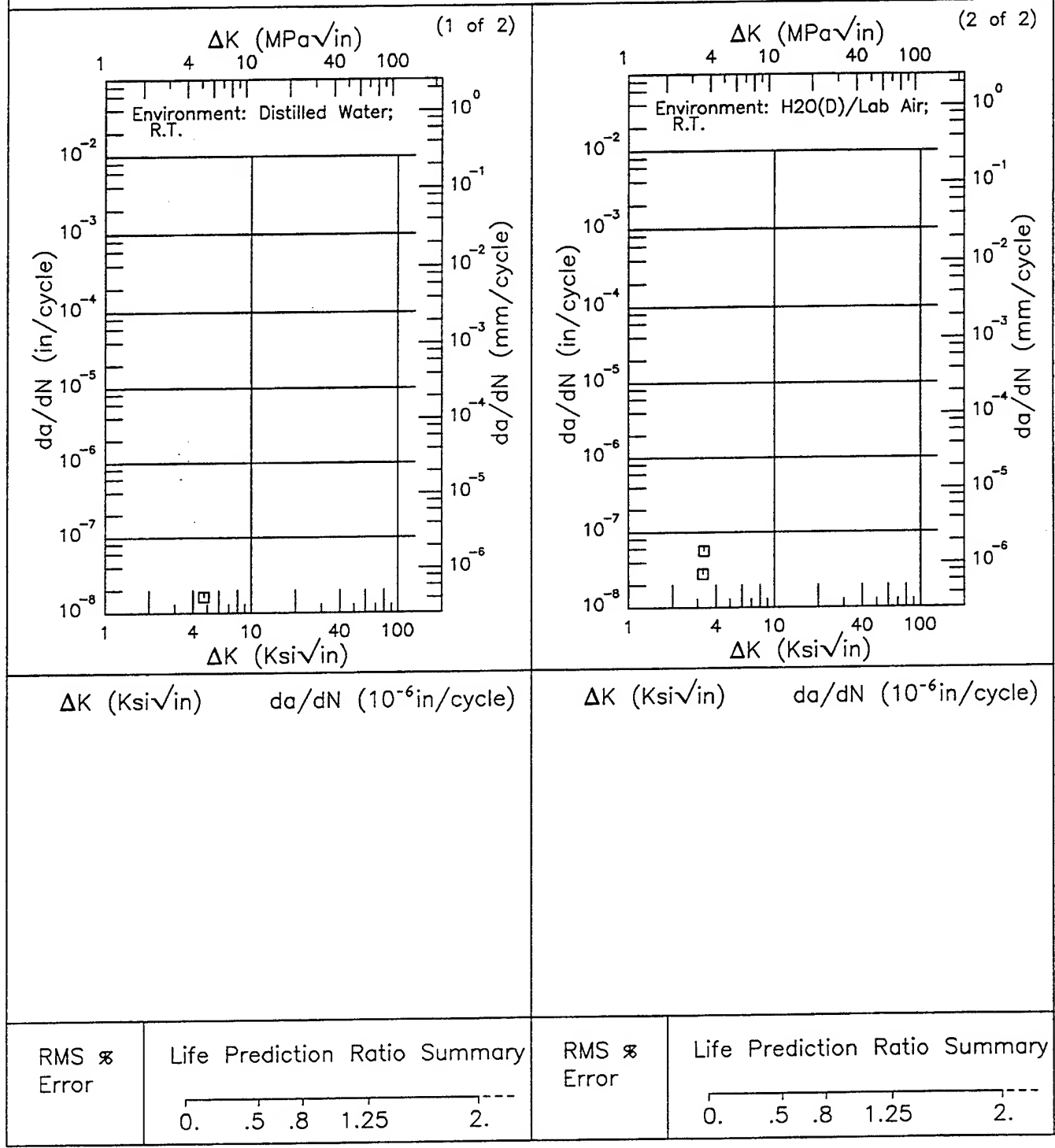


Figure 8.7.3.1.76

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 70.3 - 73.4 ksi
 Ult. Strength: 80.4 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 1.999 - 2.008 in.
 Ref: DA004;DA005

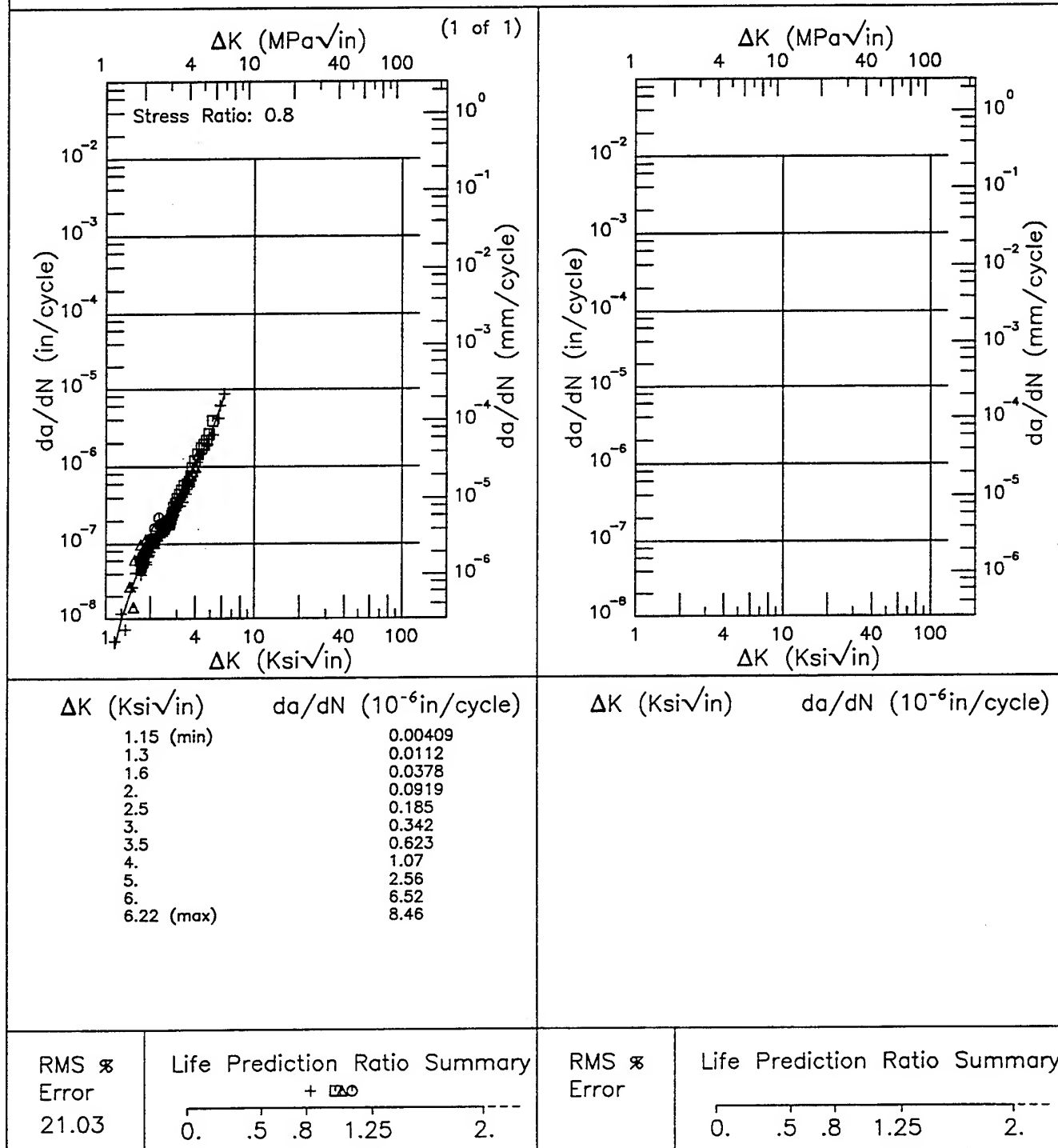
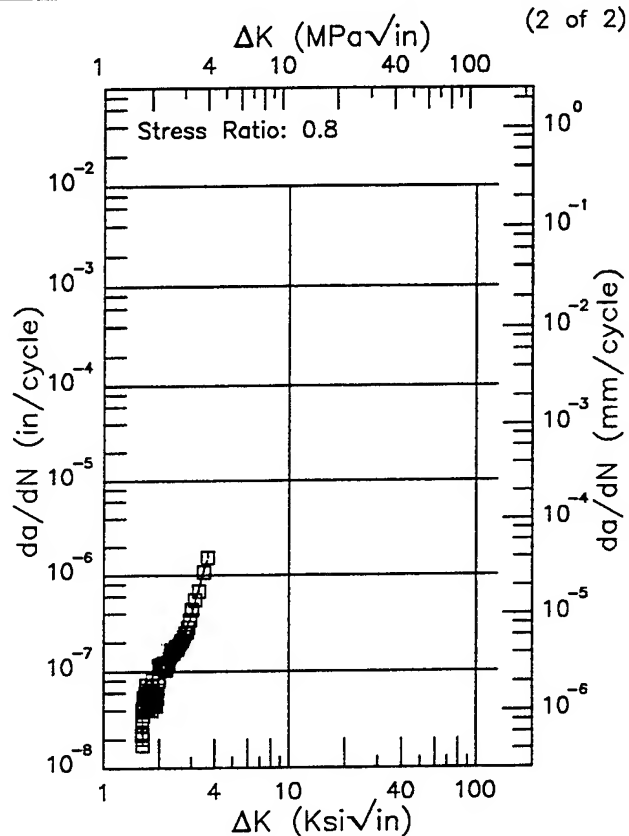
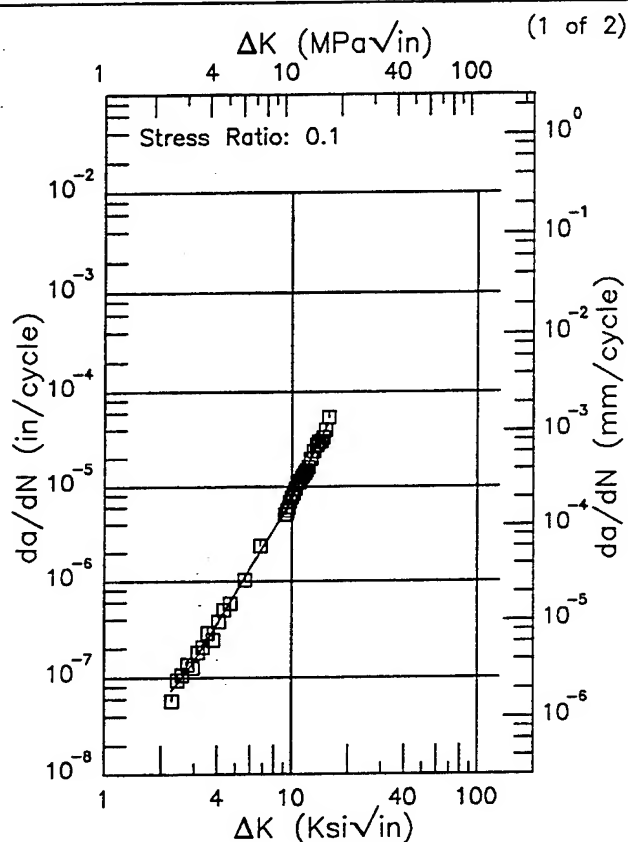


Figure 8.7.3.1.77

R 7050
 Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 5 - 15 Hz
 Environment: LAB AIR; RT

Yield Strength: 71.7 ksi
 Ult. Strength: 79 ksi
 Specimen Thk: 0.513 - 0.514 in.
 Specimen Width: 1.997 - 1.998 in.
 Ref: DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.27 (min)	0.0739
2.5	0.0919
3.	0.148
3.5	0.234
4.	0.358
5.	0.752
6.	1.39
7.	2.30
8.	3.51
9.	5.18
10.	7.50
13.	22.1
15.62 (max)	47.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.61 (min)	0.0393
2.	0.0828
2.5	0.180
3.	0.383
3.5	1.14
3.65 (max)	1.45

RMS %
 Error
 8.78

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 20.86

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.78

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: DIST WATER; RT

Yield Strength: 71.7 ksi
 Ult. Strength: 79 ksi
 Specimen Thk: 0.248 - 0.25 in.
 Specimen Width: 2.004 in.
 Ref: DA004

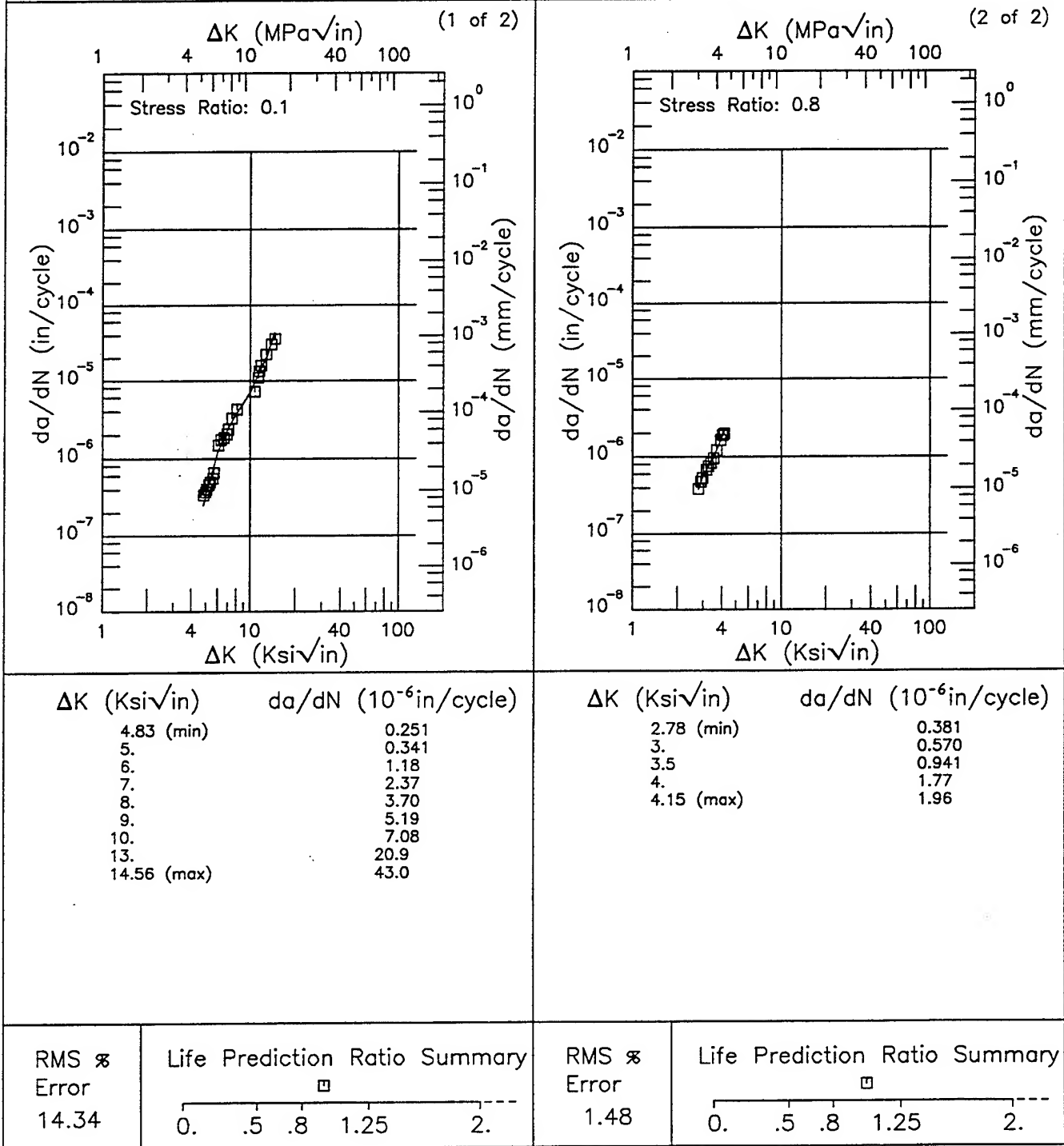
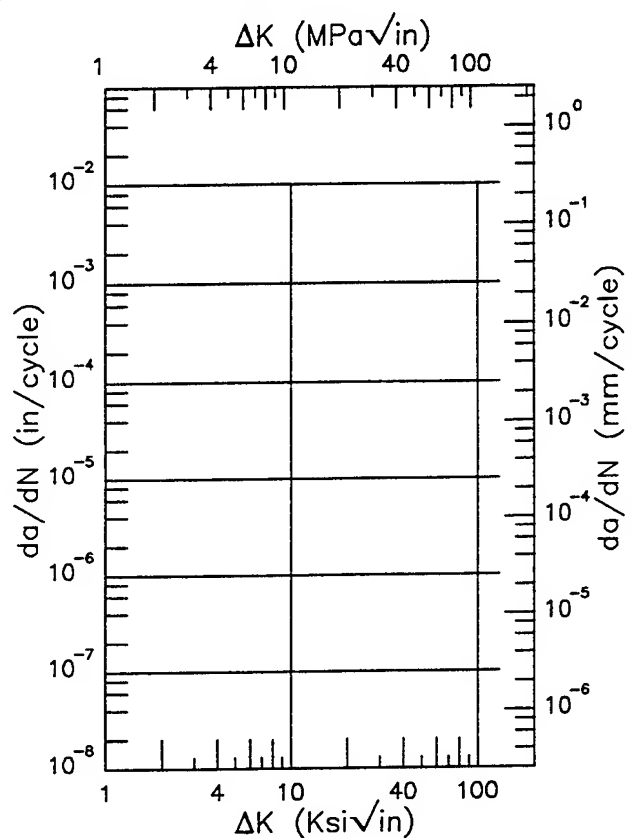
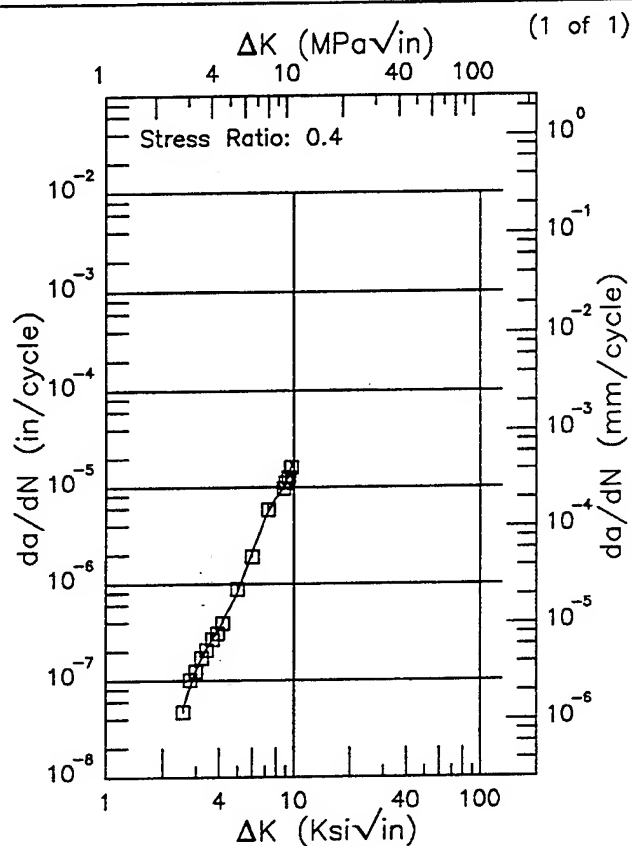


Figure 8.7.3.1.79
 8-377

R | 7050 |
 Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CT
 Orientation: T-L
 Frequency: 5 - 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 71.7 ksi
 Ult. Strength: 79 ksi
 Specimen Thk: 0.514 in.
 Specimen Width: 2 in.
 Ref: DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.56 (min)	0.0523
3.	0.129
3.5	0.228
4.	0.345
5.	0.824
6.	2.09
7.	4.76
8.	7.82
9.	10.6
9.63 (max)	15.9

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 6.89

Life Prediction Ratio Summary

RMS %
 Error

Life Prediction Ratio Summary

Figure 8.7.3.1.80

Condition/Ht: T7452
 Form: 4 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5 - 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 73.4 ksi
 Ult. Strength: 80.4 ksi
 Specimen Thk: 0.198 in.
 Specimen Width: 12 in.
 Ref: DA004

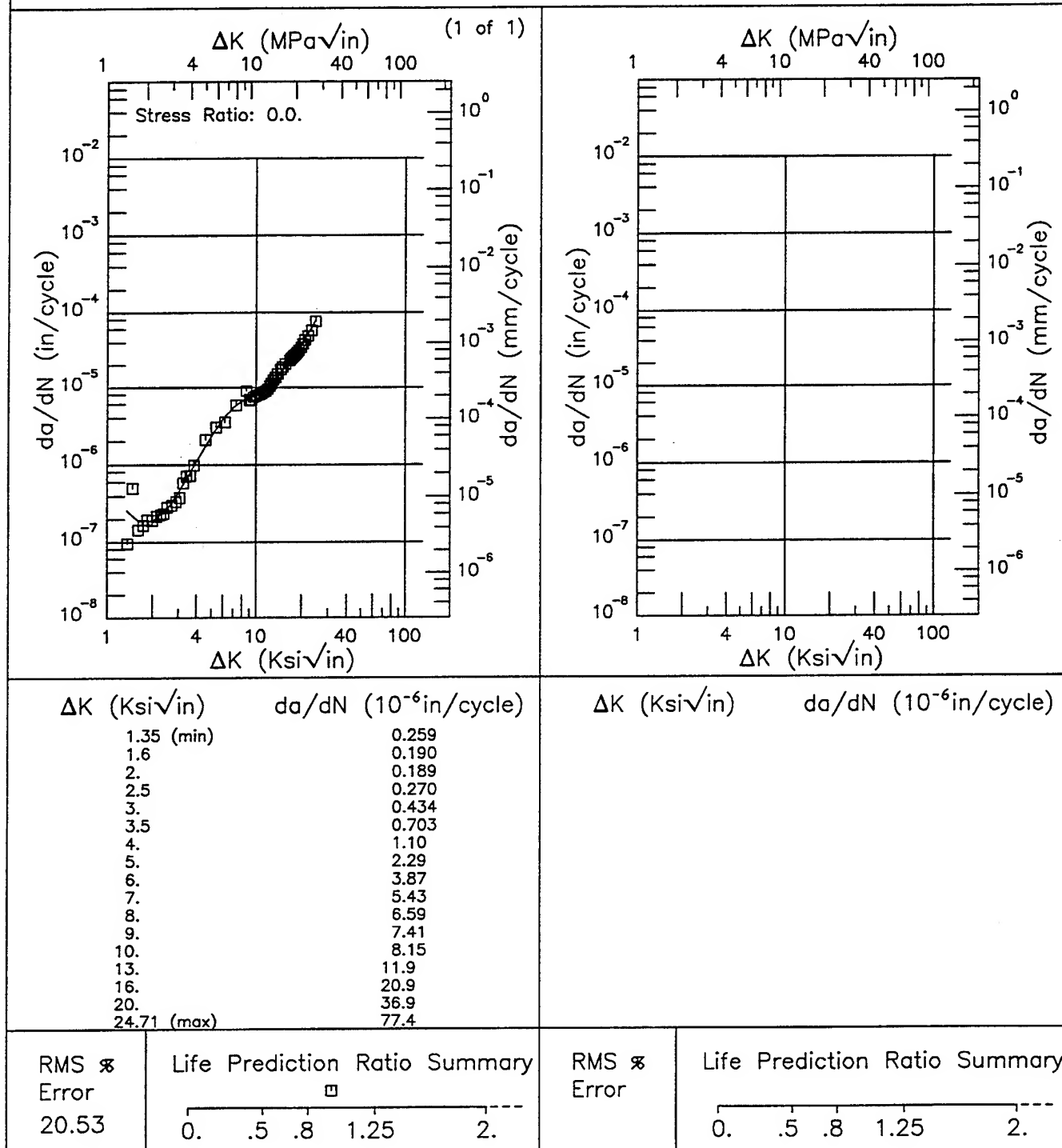


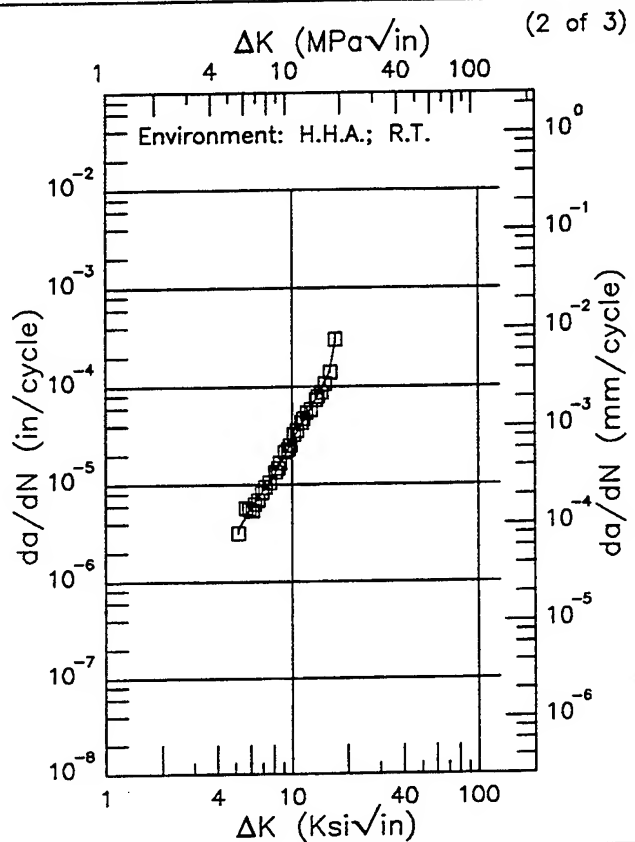
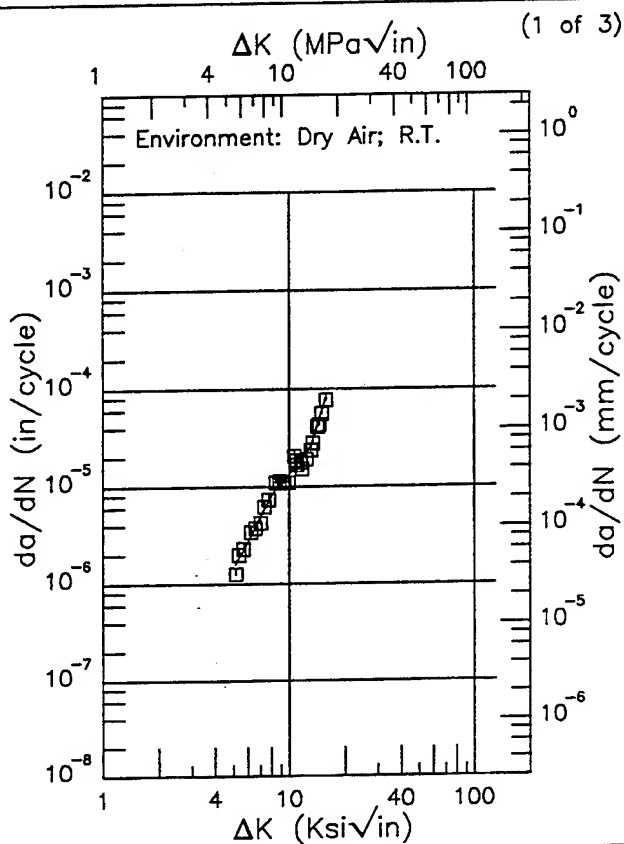
Figure 8.7.3.1.81

E

7050

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 79.6 ksi
 Ult. Strength: 83.6 ksi
 Specimen Thk: 0.125 in.
 Specimen Width: 4 in.
 Ref: AL015



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.13 (min)	1.58
6.	2.73
7.	5.05
8.	8.16
9.	11.1
10.	13.4
13.	25.5
15.70 (max)	80.9

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.17 (min)	3.45
6.	5.76
7.	8.54
8.	12.3
9.	18.8
10.	28.6
13.	65.7
16.	139.
17.18 (max)	292.

RMS %
 Error
 12.32

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 6.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.82

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 79.6 ksi
 Ult. Strength: 83.6 ksi
 Specimen Thk: 0.125 in.
 Specimen Width: 4 in.
 Ref: AL015

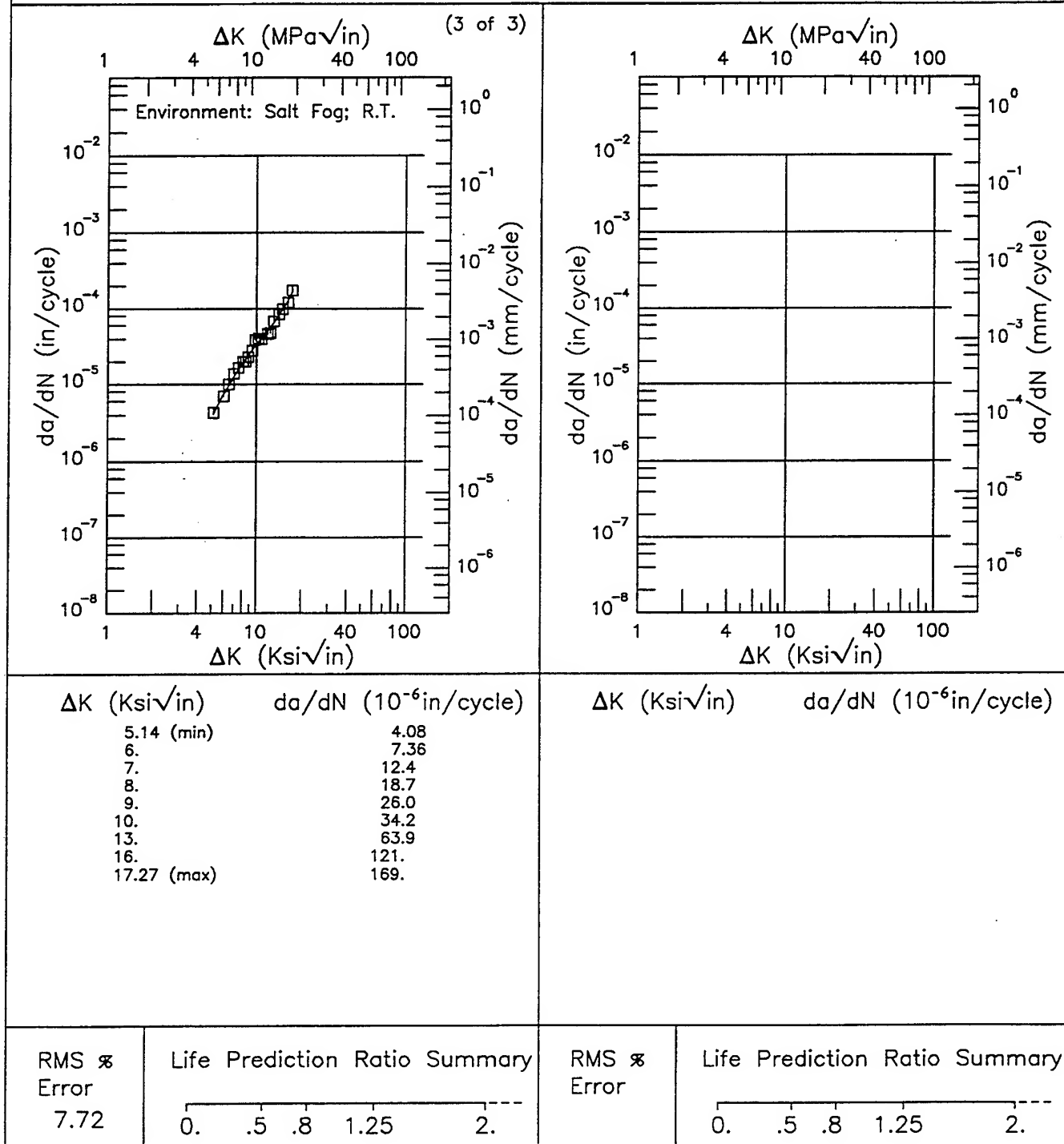


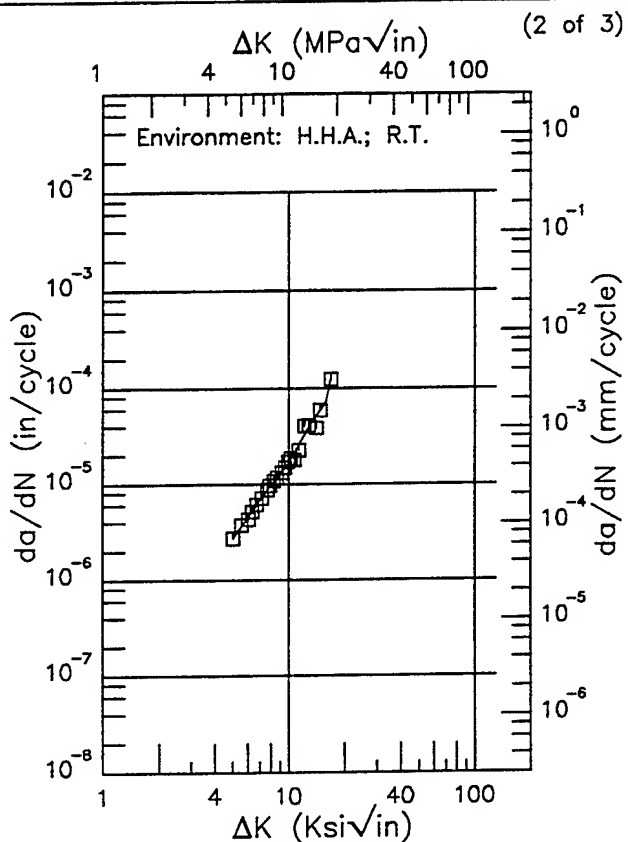
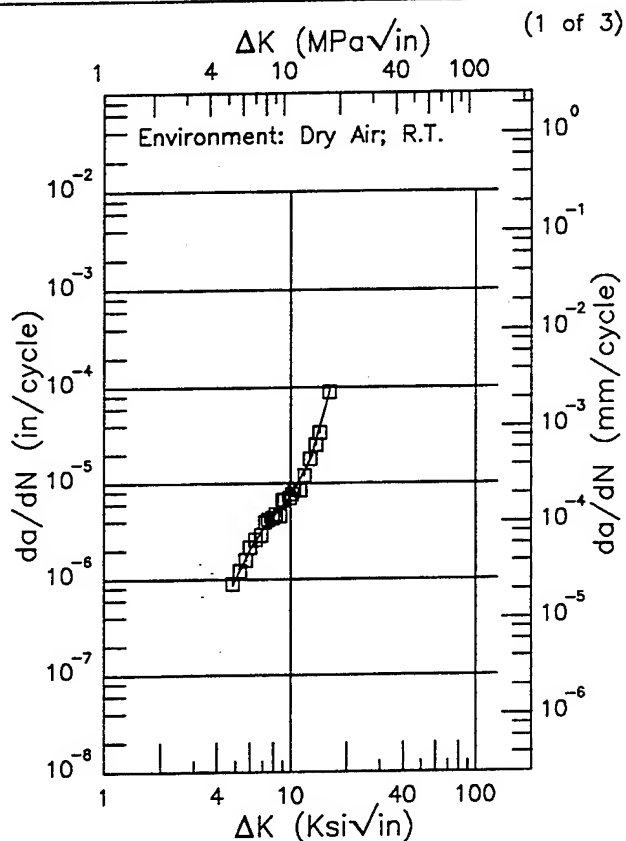
Figure 8.7.3.1.82 (Concluded)

E

7050

Condition/Ht: T76
 Form: 0.04 in. Sheet
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 73.1 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 0.04 in.
 Specimen Width: 4 in.
 Ref: AL015



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
4.84 (min)	0.862
5.	0.997
6.	2.03
7.	3.25
8.	4.54
9.	5.81
10.	7.22
13.	18.9
16.	86.3
16.03 (max)	87.8

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
5.01 (min)	2.76
6.	4.40
7.	6.81
8.	9.68
9.	12.7
10.	16.6
13.	41.0
16.	72.4
16.84 (max)	123.

RMS %
 Error
 8.73

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 8.98

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.83

Condition/Ht: T76
 Form: 0.04 in. Sheet
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 73.1 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 0.04 in.
 Specimen Width: 4 in.
 Ref: AL015

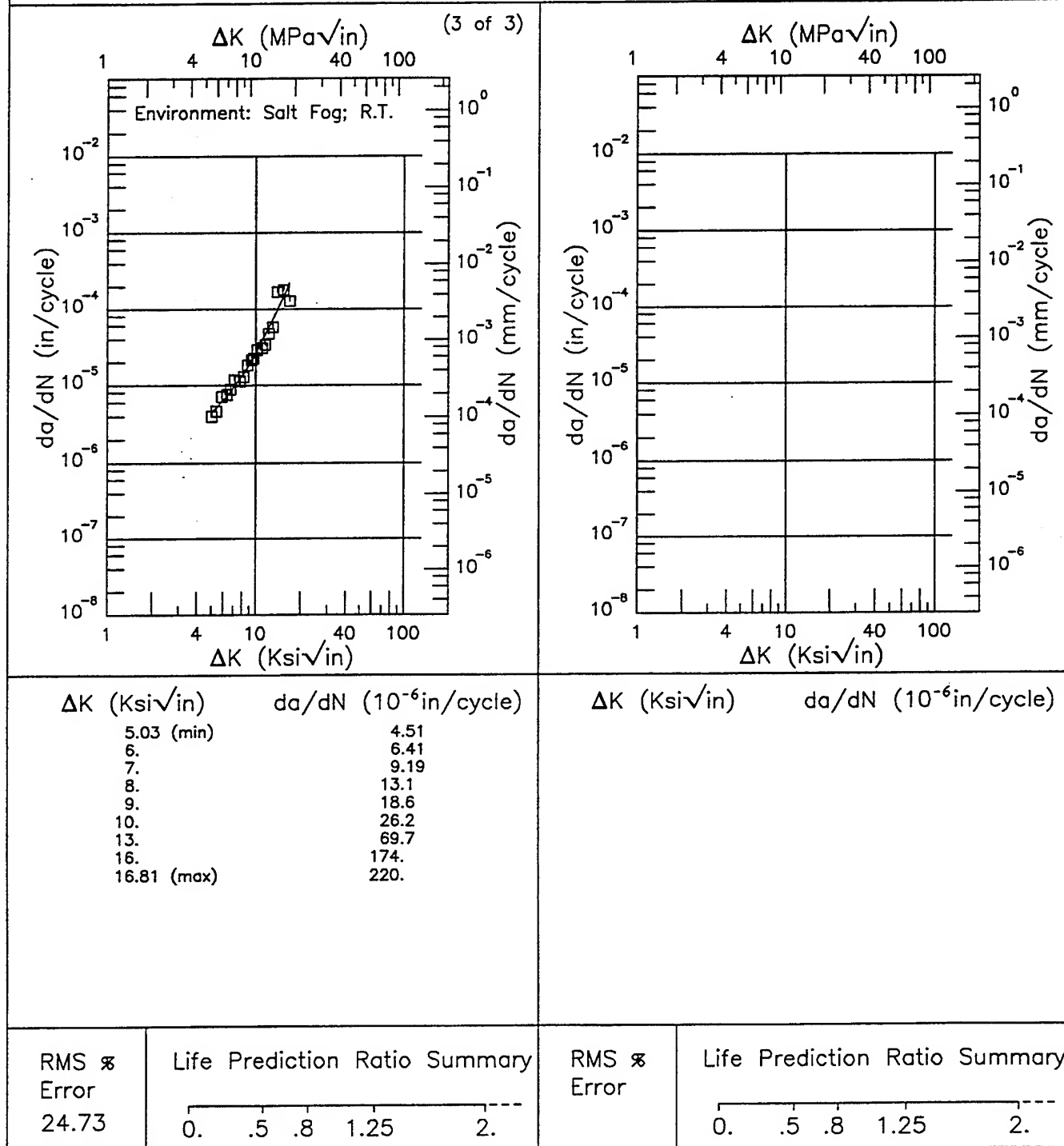


Figure 8.7.3.1.83 (Concluded)

R

7050

Condition/Ht: T76
 Form: 0.09 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 13.3 Hz
 Environment: LAB AIR; RT

Yield Strength: 79 ksi
 Ult. Strength: 85.8 ksi
 Specimen Thk: 0.09 - 0.091 in.
 Specimen Width: 4 - 4.004 in.
 Ref: 86213

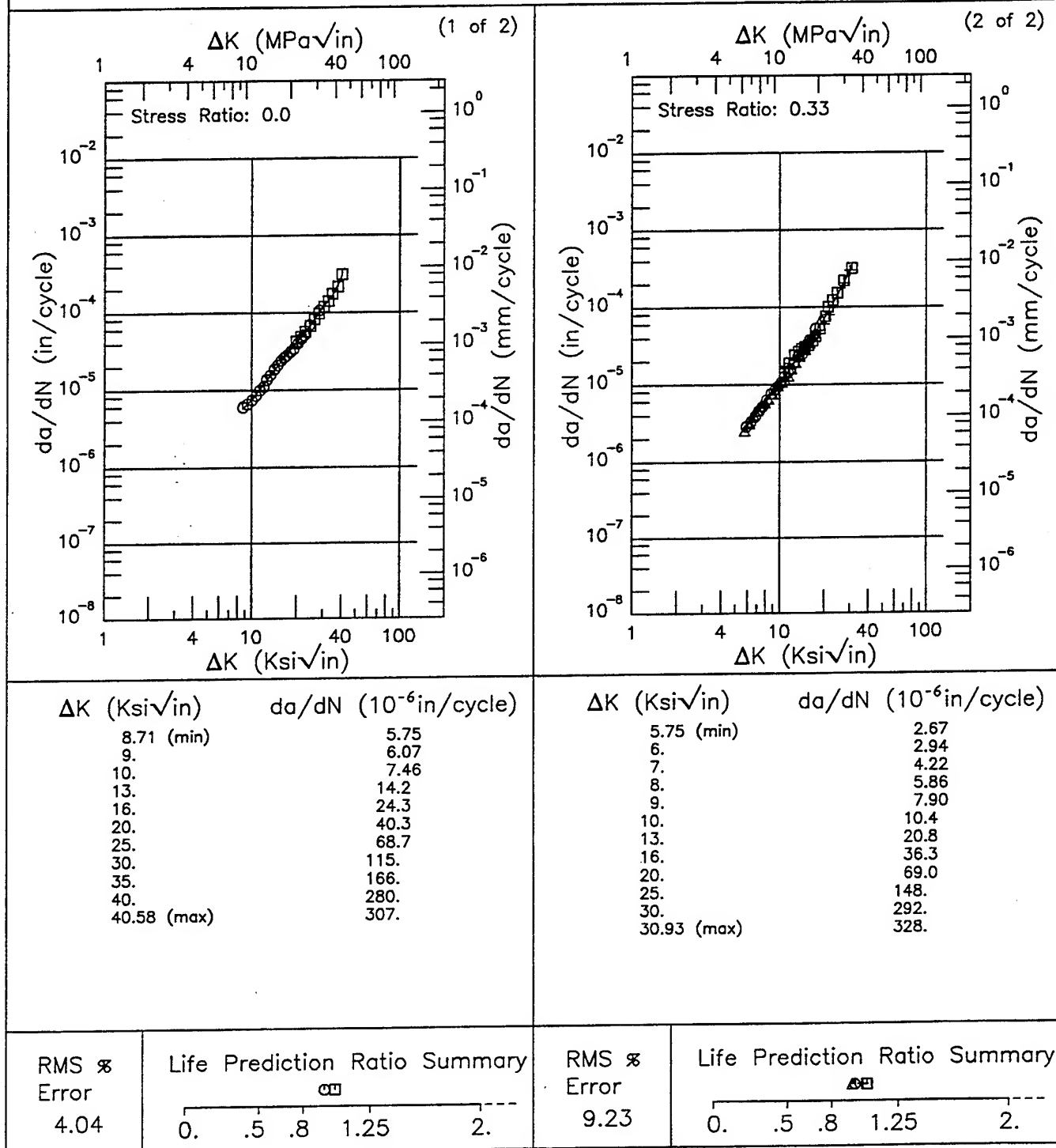


Figure 8.7.3.1.84

Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 2 - 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.207 in.
 Specimen Width: 11.998 in.
 Ref: DA004

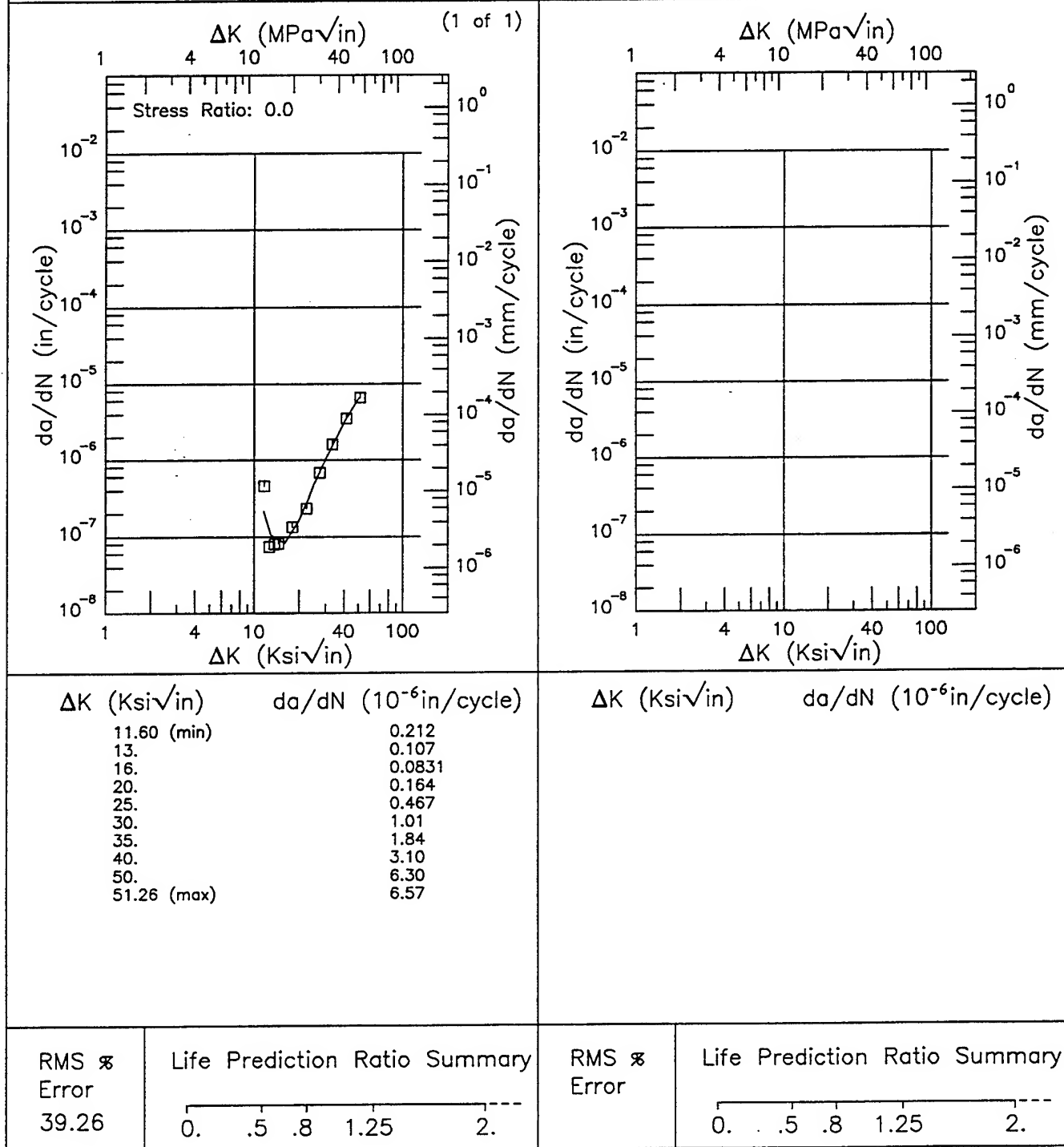
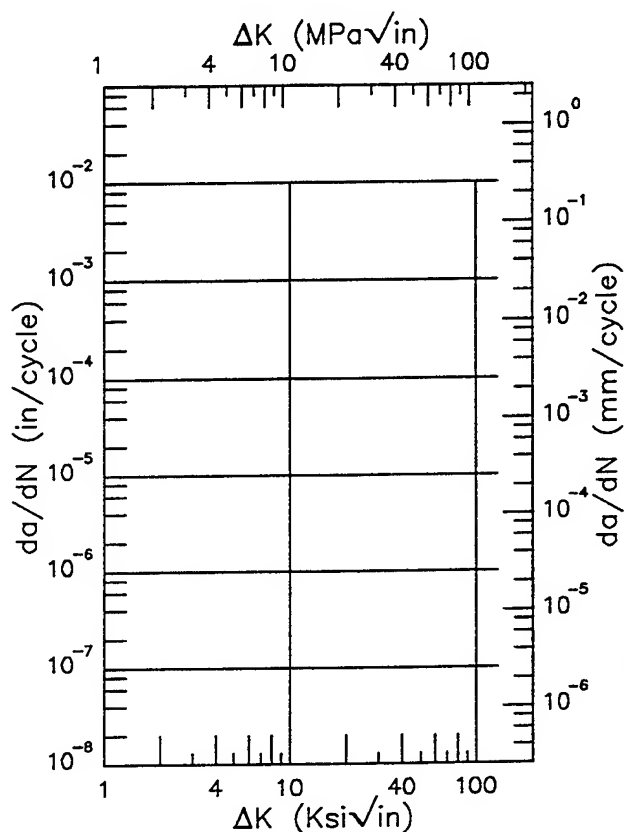
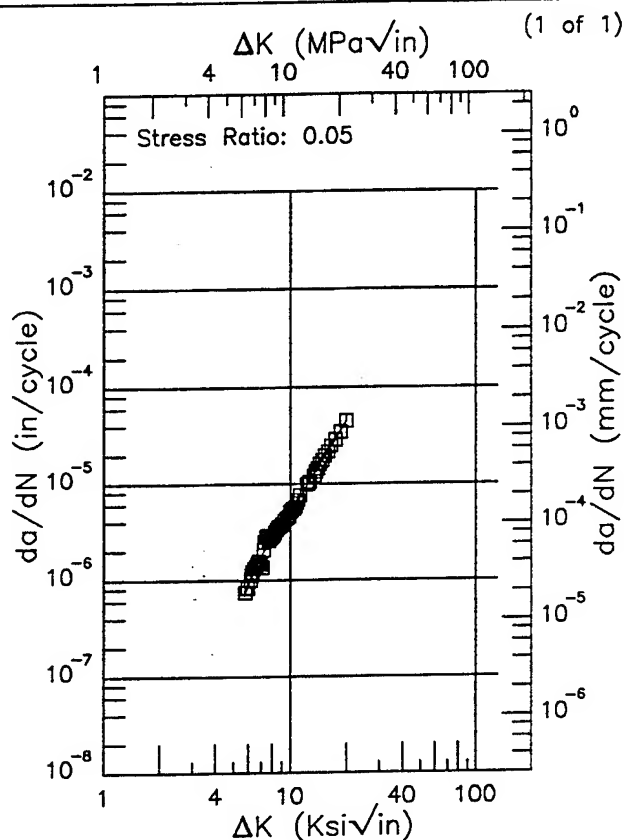


Figure 8.7.3.1.85

R 7050
 Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 2 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 1.999 in.
 Ref: DA004



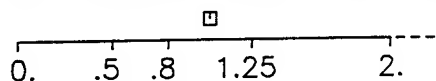
ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.74 (min)	0.692
6.	0.893
7.	1.80
8.	2.79
9.	3.86
10.	5.11
13.	11.6
16.	22.7
19.92 (max)	44.9

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
Error

7.87

Life Prediction Ratio Summary



RMS %
Error

Life Prediction Ratio Summary

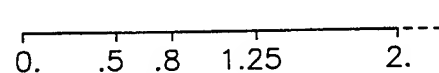


Figure 8.7.3.1.86

Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.247 in.
 Specimen Width: 1.999 in.
 Ref: DA004

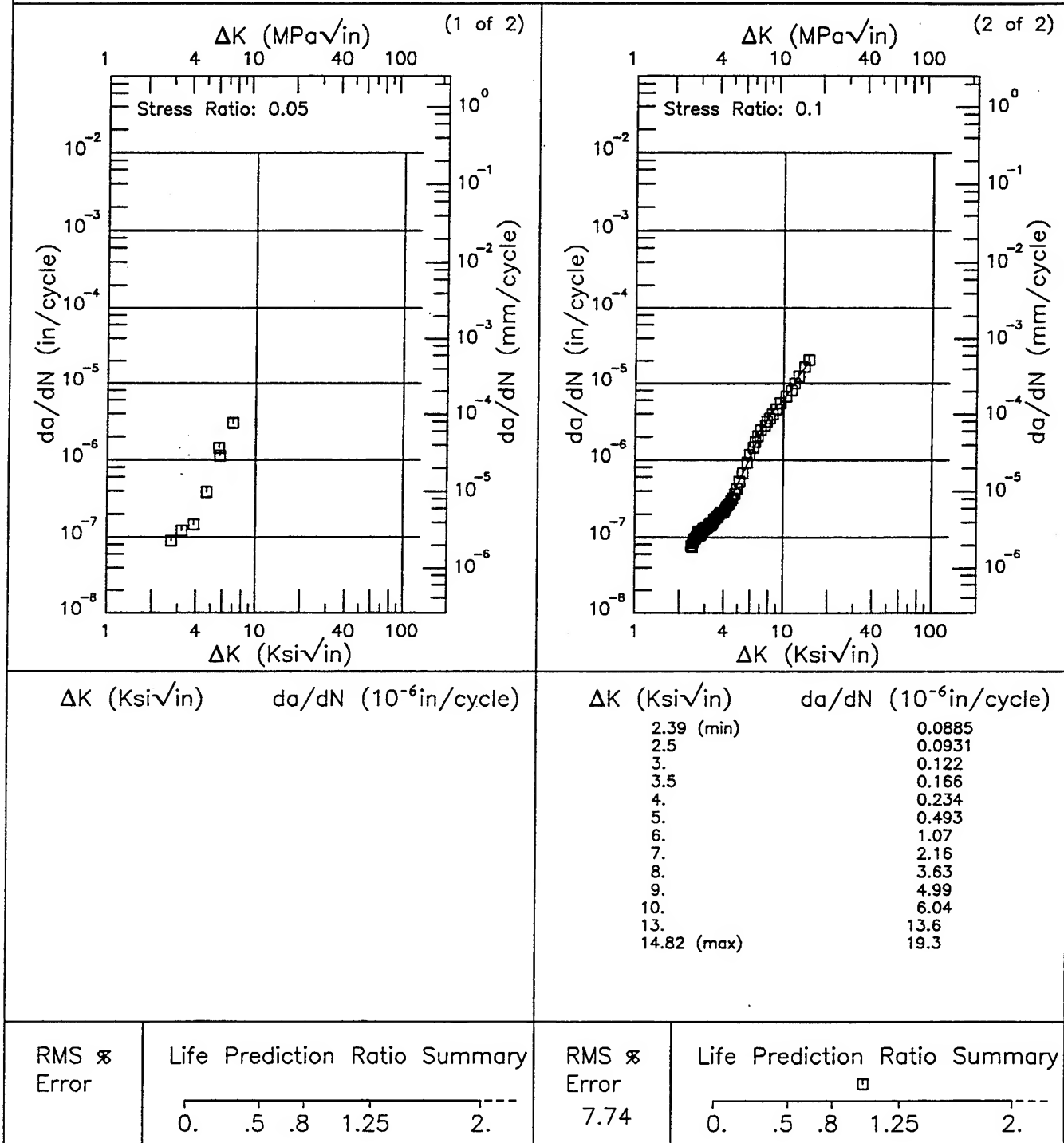


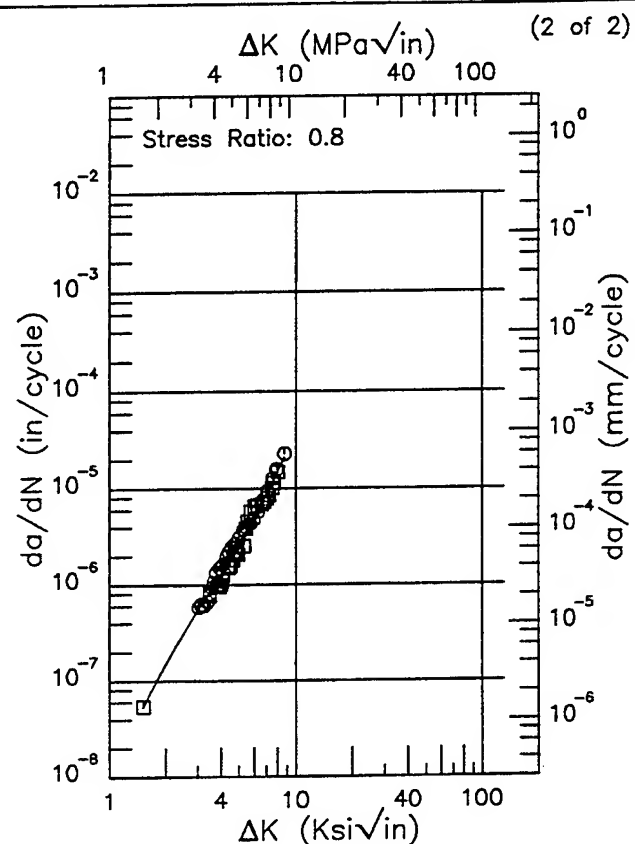
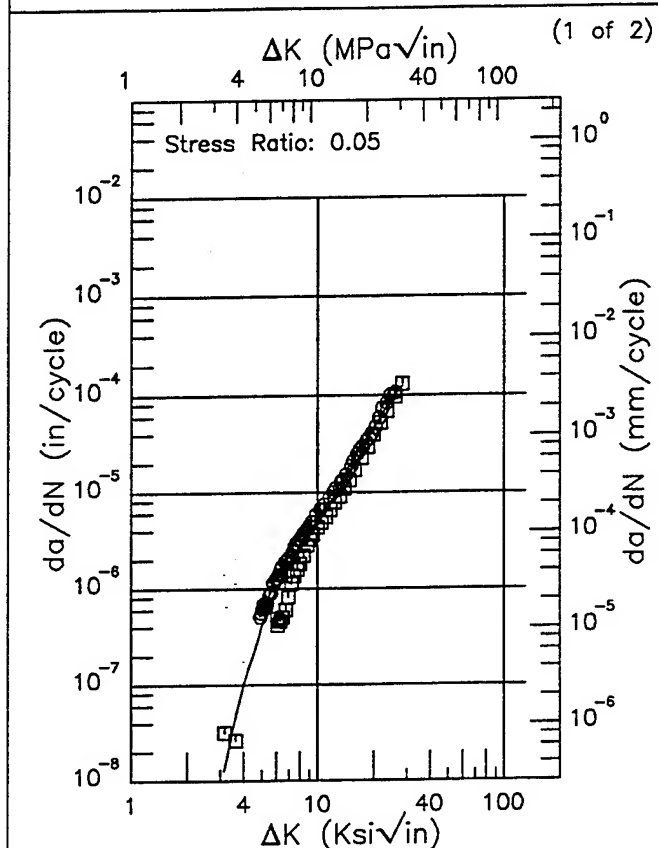
Figure 8.7.3.1.87

R

7050

Condition/Ht: T7651
 Form: 0.75 - 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: DIST WATER; RT

Yield Strength: 69.4 - 71.2 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.245 - 0.248 in.
 Specimen Width: 1.998 - 2.005 in.
 Ref: DA005;DA004



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.16 (min)	0.0127
3.5	0.0338
4.	0.100
5.	0.420
6.	1.01
7.	1.83
8.	2.82
9.	3.94
10.	5.23
13.	10.5
16.	20.2
20.	46.3
25.	96.1
28.31 (max)	125.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.51 (min)	0.0535
1.6	0.0663
2.	0.148
2.5	0.308
3.	0.546
3.5	0.878
4.	1.33
5.	2.71
6.	5.06
7.	8.91
8.	15.1
8.69 (max)	21.2

RMS %
 Error
 31.17

Life Prediction Ratio Summary

□ ○

0. .5 .8 1.25 2.

RMS %
 Error
 14.28

Life Prediction Ratio Summary

□ ○

0. .5 .8 1.25 2.

Figure 8.7.3.1.88

Condition/Ht: T7651
 Form: 1.13 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: DRY AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 91332

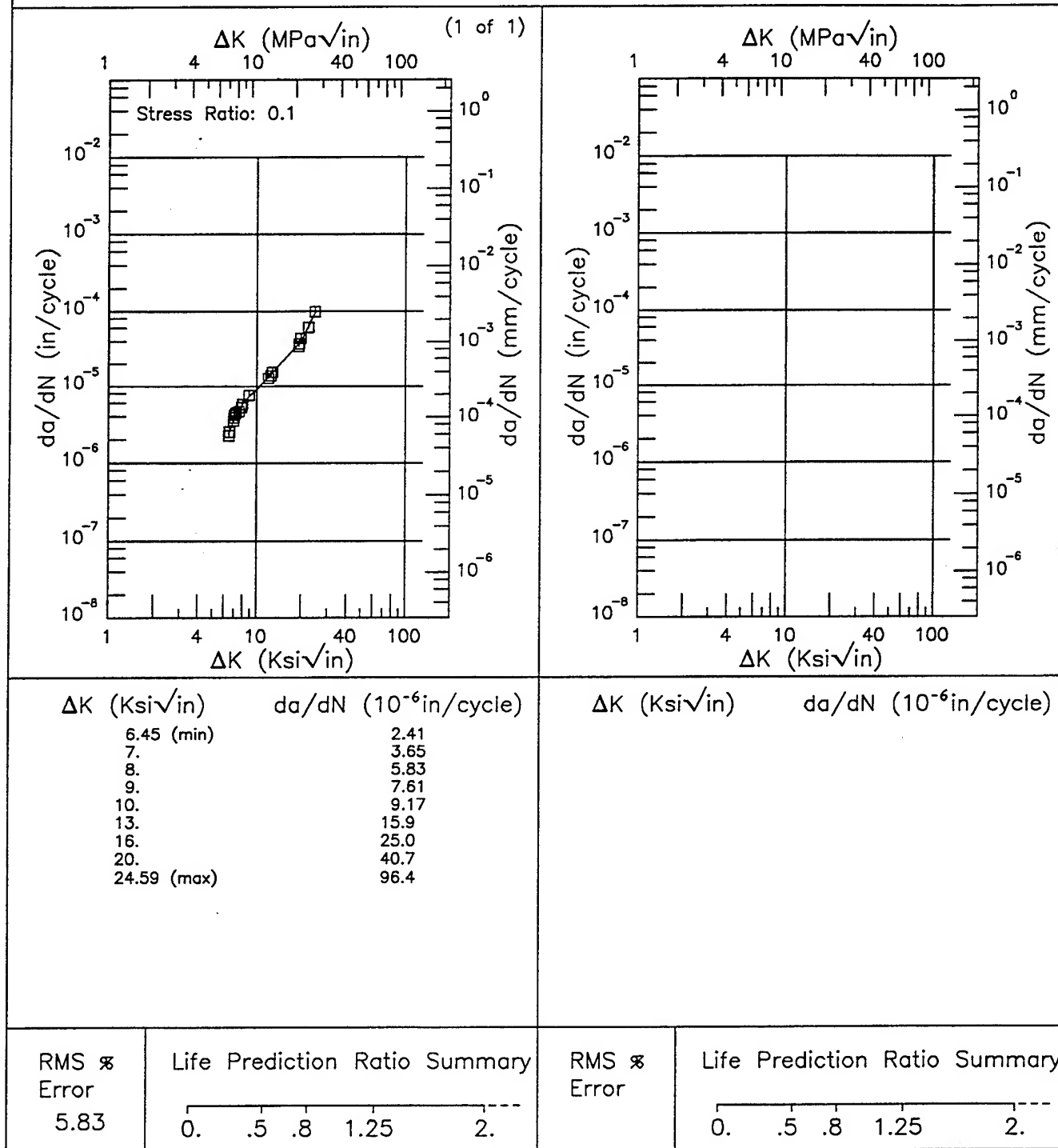
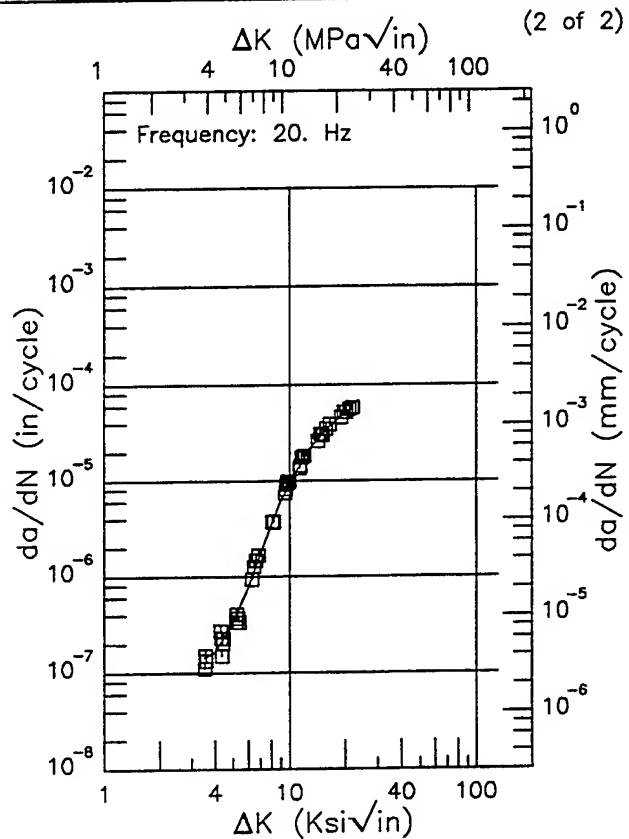
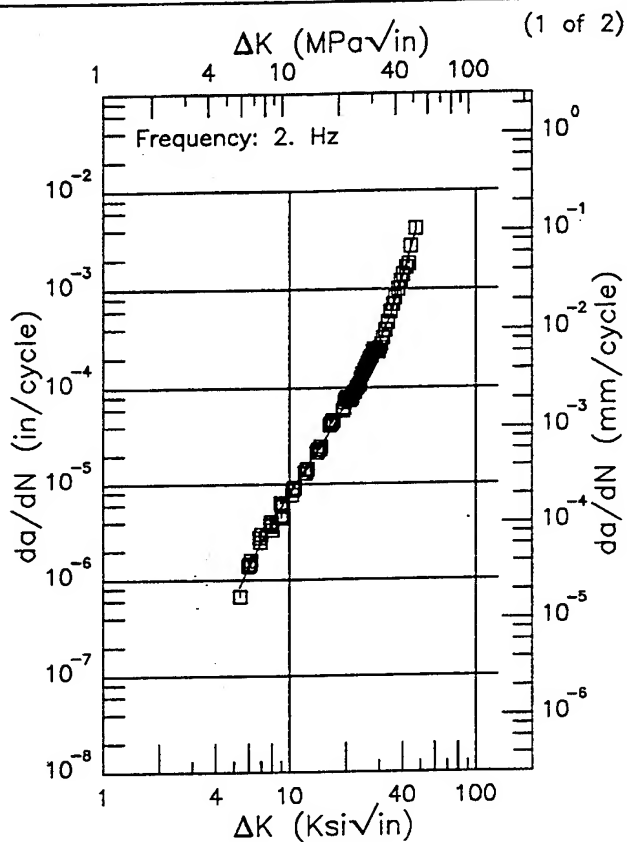


Figure 8.7.3.1.89

F 7050

Condition/Ht: T7651
 Form: 0.52 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.148 in.
 Specimen Width: 3 in.
 Ref: 86844

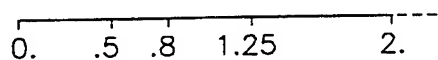


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.39 (min)	0.832
6.	1.34
7.	2.46
8.	3.94
9.	5.77
10.	7.97
13.	17.3
16.	32.6
20.	68.9
25.	152.
30.	295.
35.	589.
40.	1321.
47.21 (max)	3939.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.50 (min)	0.145
4.	0.167
5.	0.333
6.	0.775
7.	1.73
8.	3.48
9.	6.16
10.	9.64
13.	22.0
16.	35.2
20.	51.9
21.86 (max)	57.4

RMS %
 Error
 9.34

Life Prediction Ratio Summary



RMS %
 Error
 11.45

Life Prediction Ratio Summary

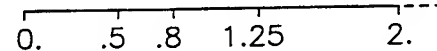


Figure 8.7.3.1.90

Condition/Ht: T7651
 Form: 0.52 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: 3.5% NACL; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.147 - 0.148 in.
 Specimen Width: 3 in.
 Ref: 86844

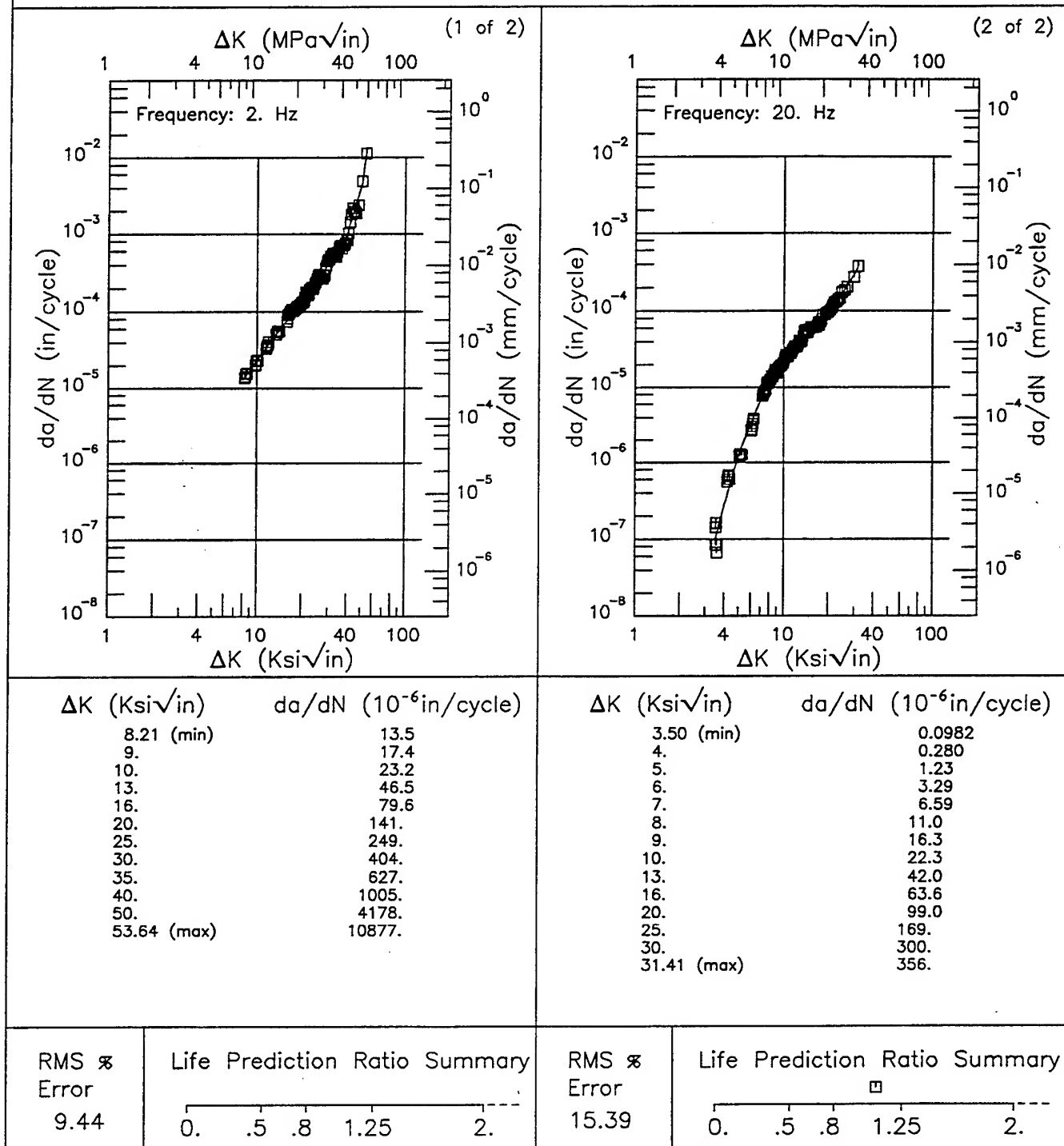
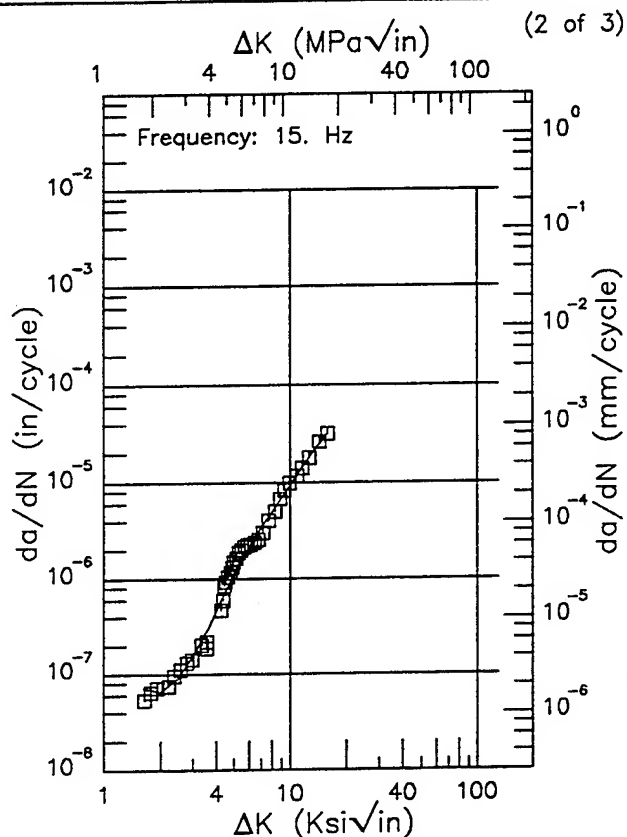
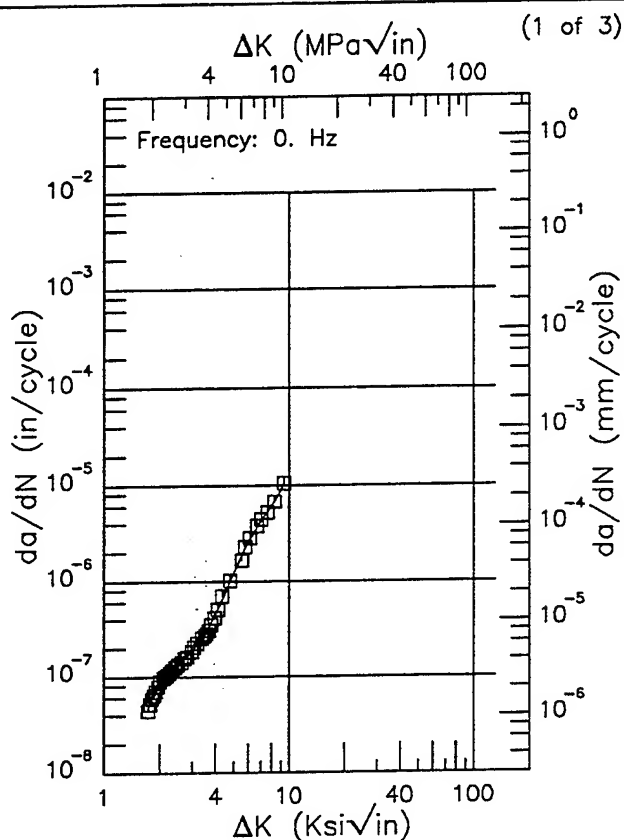


Figure 8.7.3.1.91

F 7050

Condition/Ht: T7651
 Form: 0.75 - 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4
 Environment: LAB AIR; RT

Yield Strength: 15 - 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.246 - 0.25 in.
 Specimen Width: 2.001 - 2.009 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.72 (min)	0.0473
2.	0.0816
2.5	0.134
3.	0.189
3.5	0.278
4.	0.451
5.	1.22
6.	2.57
7.	4.23
8.	6.12
9.	8.94
9.33 (max)	10.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.64 (min)	0.0711
2.	0.0645
2.5	0.0909
3.	0.155
3.5	0.273
4.	0.464
5.	1.12
6.	2.11
7.	3.38
8.	4.97
9.	6.92
10.	9.32
13.	19.6
15.78 (max)	31.8

RMS %
 Error
 4.05

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 18.92

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.92

Condition/Ht: T7651
 Form: 0.75 - 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4
 Environment: LAB AIR; RT

Yield Strength: 15 - 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.246 - 0.25 in.
 Specimen Width: 2.001 - 2.009 in.
 Ref: DA004;DA005

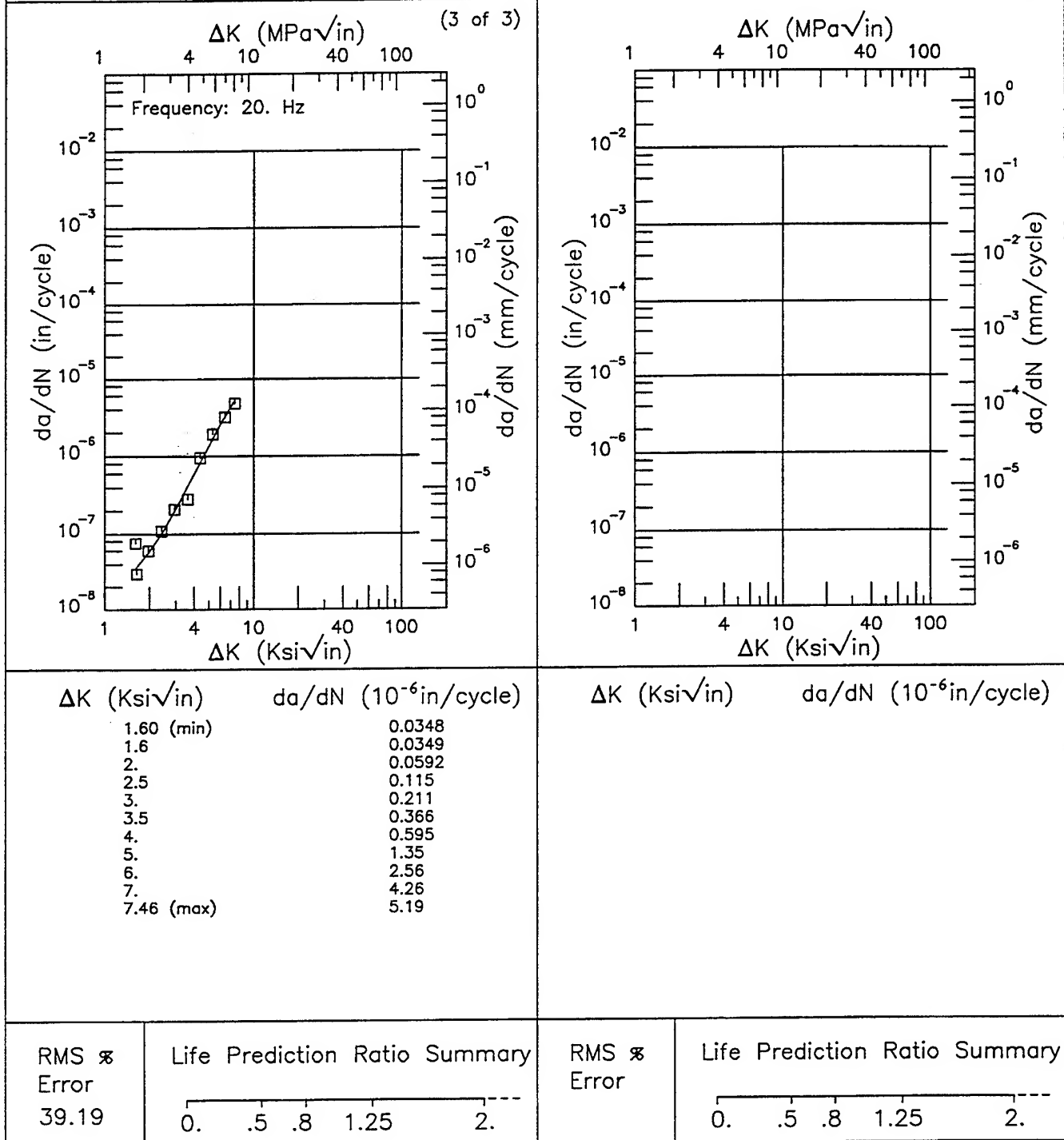


Figure 8.7.3.1.92 (Concluded)

R | 7050 |

Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 1.999 in.
 Ref: DA004

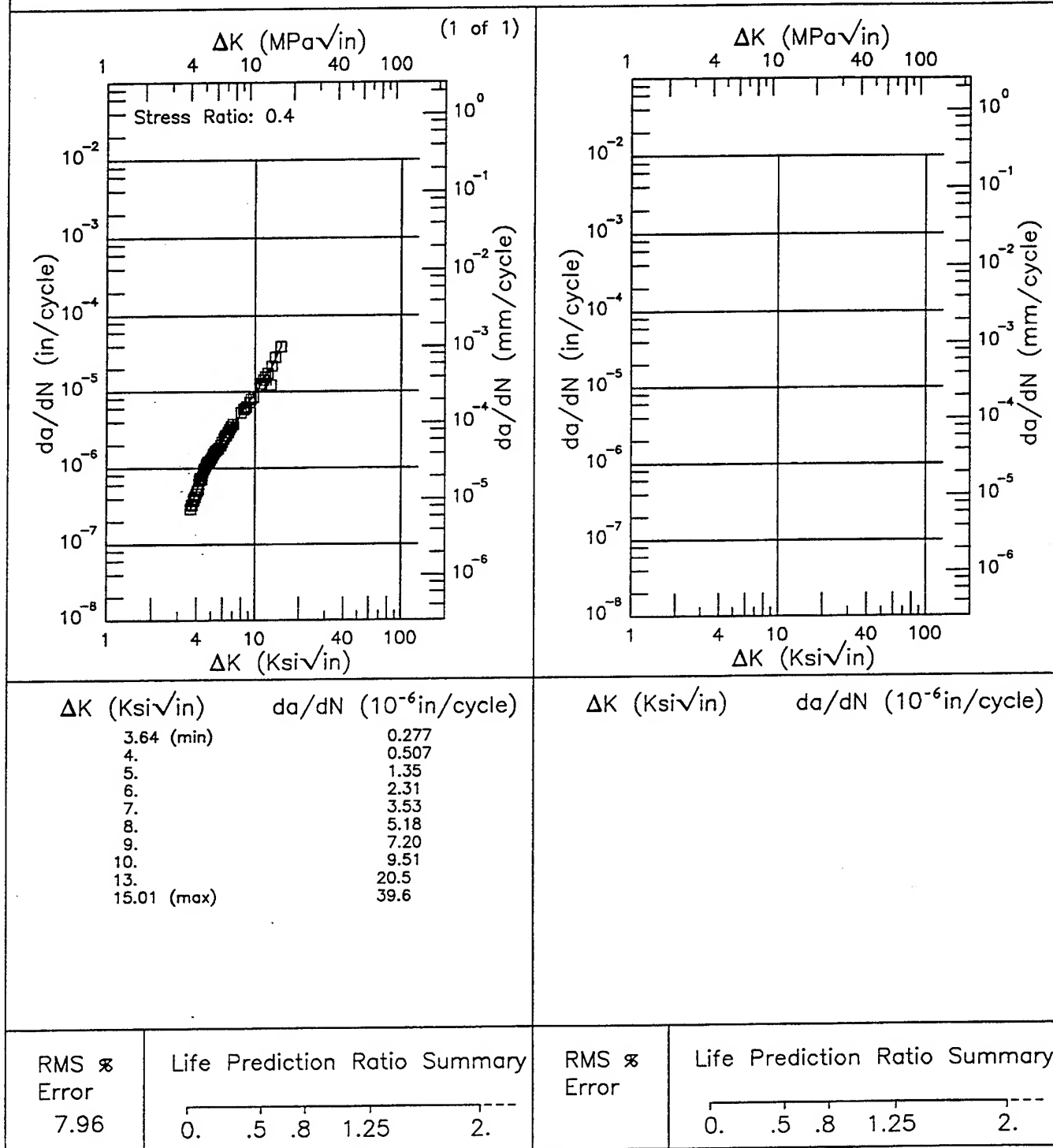


Figure 8.7.3.1.93

Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.499 in.
 Specimen Width: 2 in.
 Ref: DA004

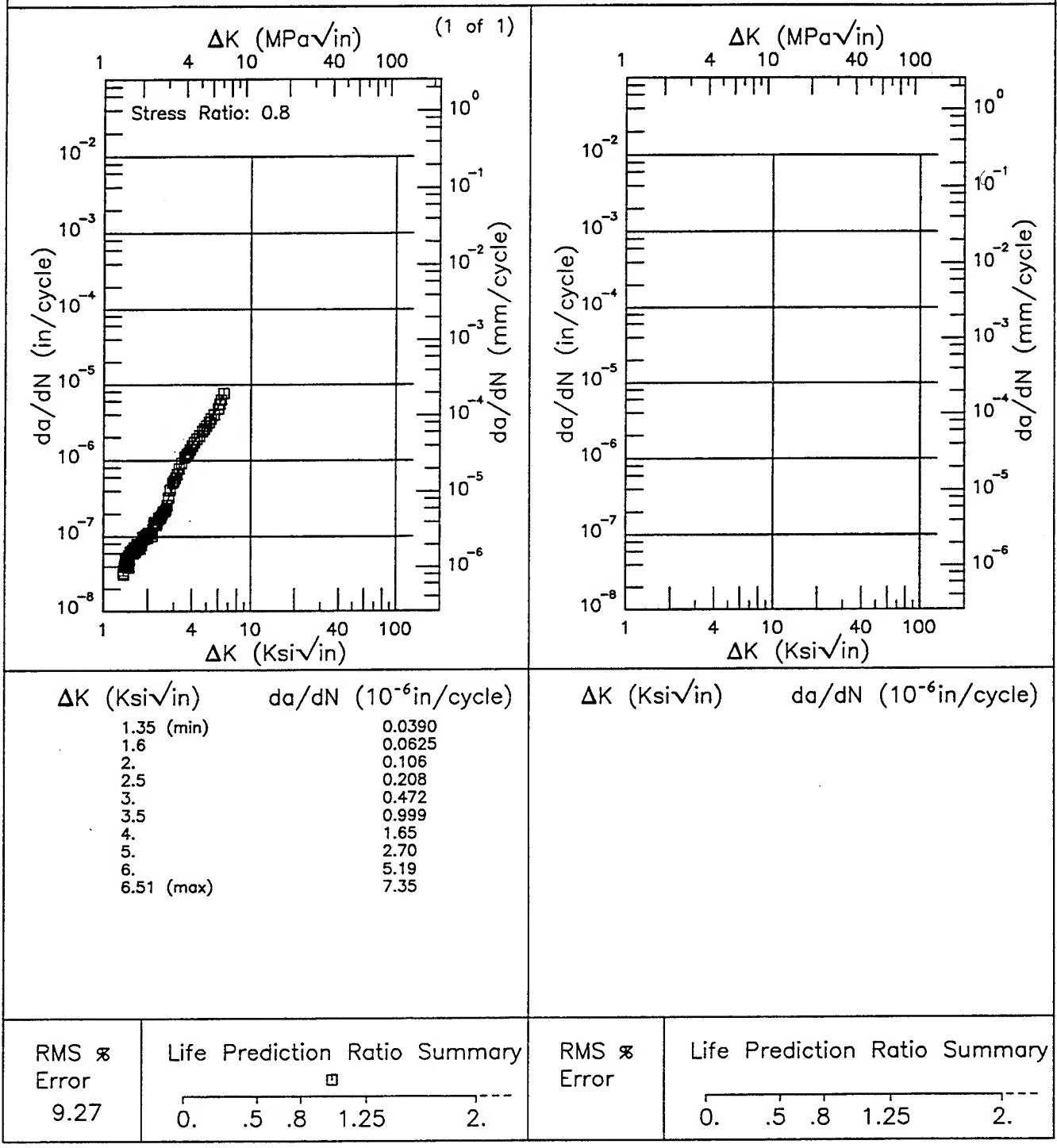
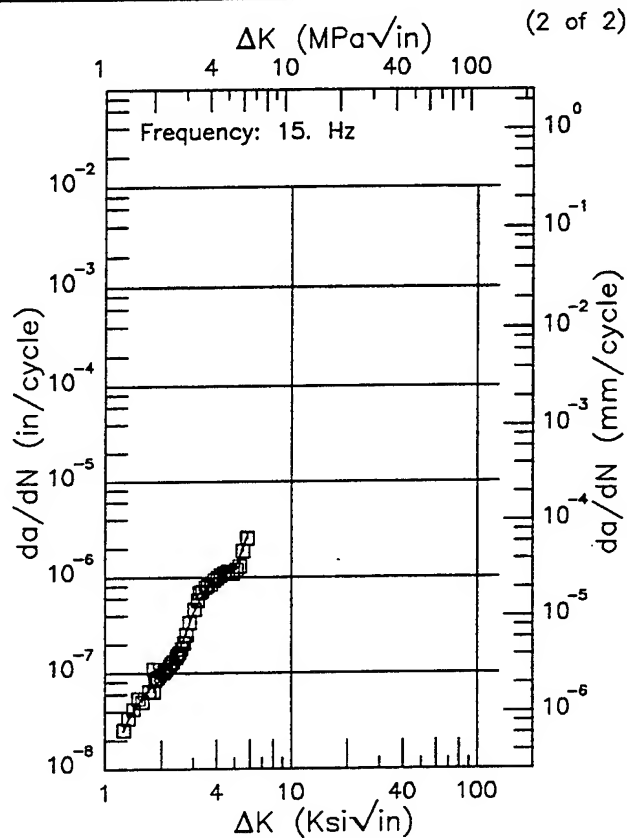
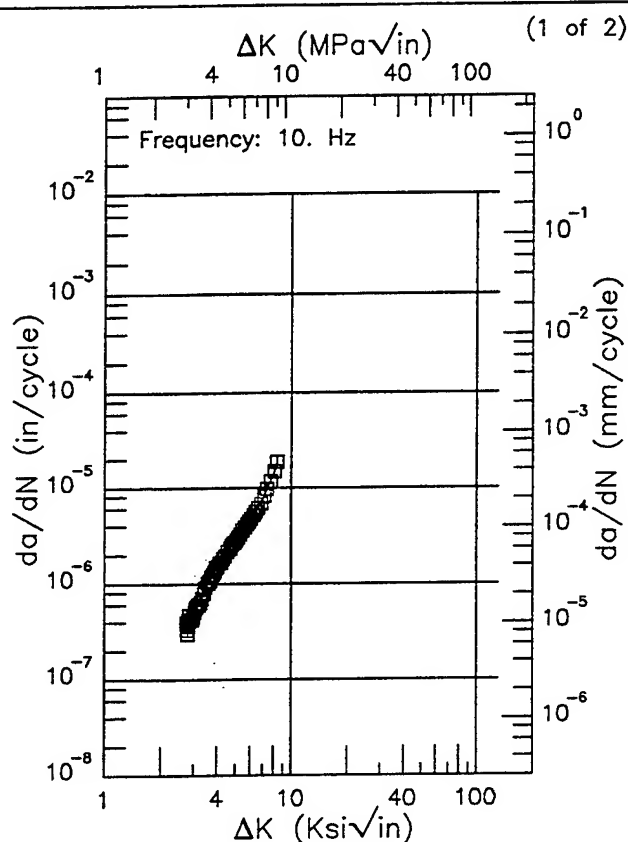


Figure 8.7.3.1.94

F | 7050 |
 Condition/Ht: T7651
 Form: 0.75 - 1 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.8
 Environment: LAB AIR; RT

Yield Strength: 15 - 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.246 - 0.25 in.
 Specimen Width: 2 - 2.006 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.74 (min)	0.338
3.	0.485
3.5	0.900
4.	1.47
5.	2.78
6.	4.49
7.	7.52
8.	13.9
8.39 (max)	18.2

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.25 (min)	0.0248
1.3	0.0304
1.6	0.0584
2.	0.0888
2.5	0.177
3.	0.430
3.5	0.796
4.	0.998
5.	1.17
5.79 (max)	2.63

RMS %
 Error
 5.99

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 10.66

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.95

Condition/Ht: T7651
 Form: 0.75 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 1 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 11.994 in.
 Ref: DA004

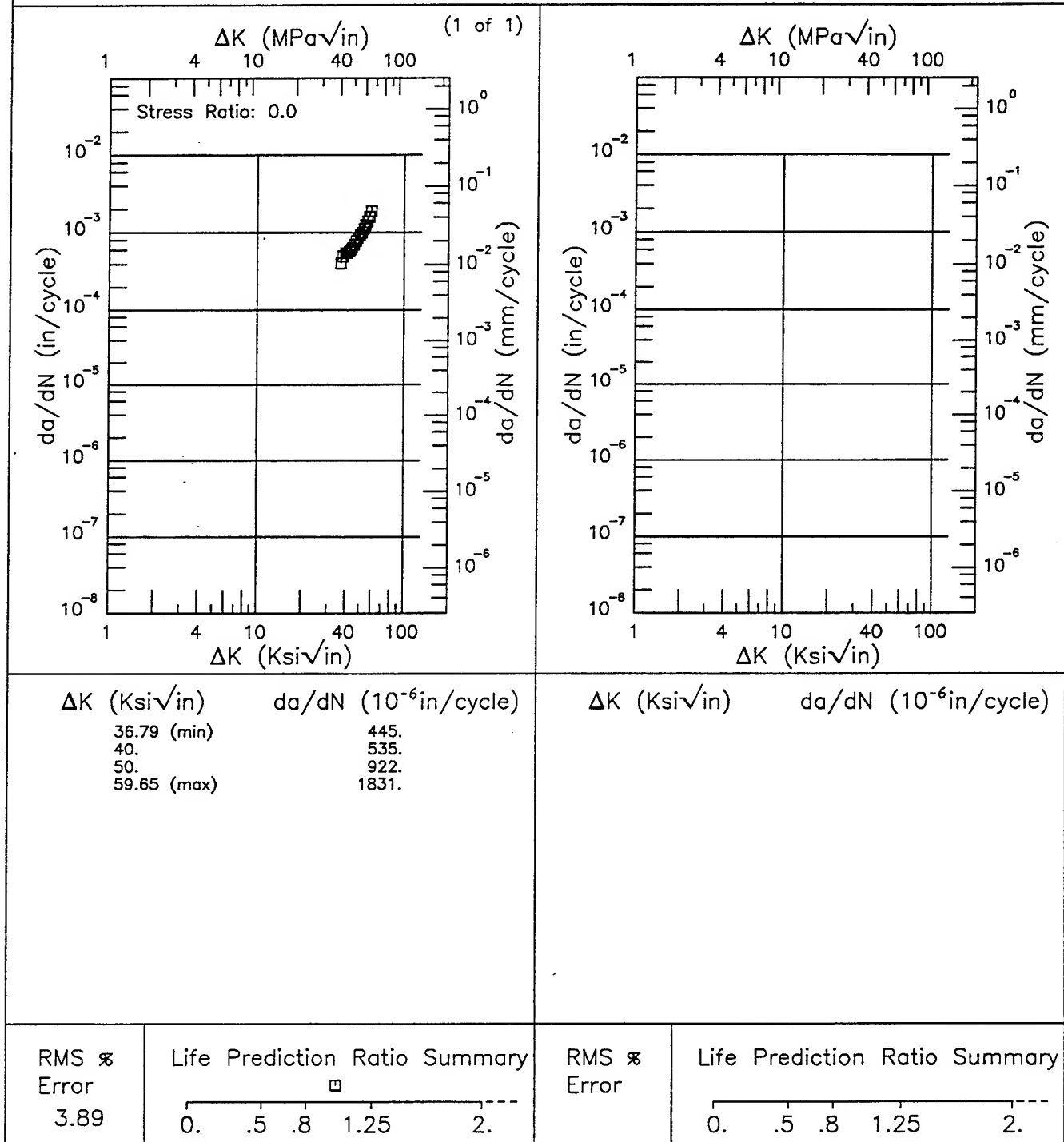
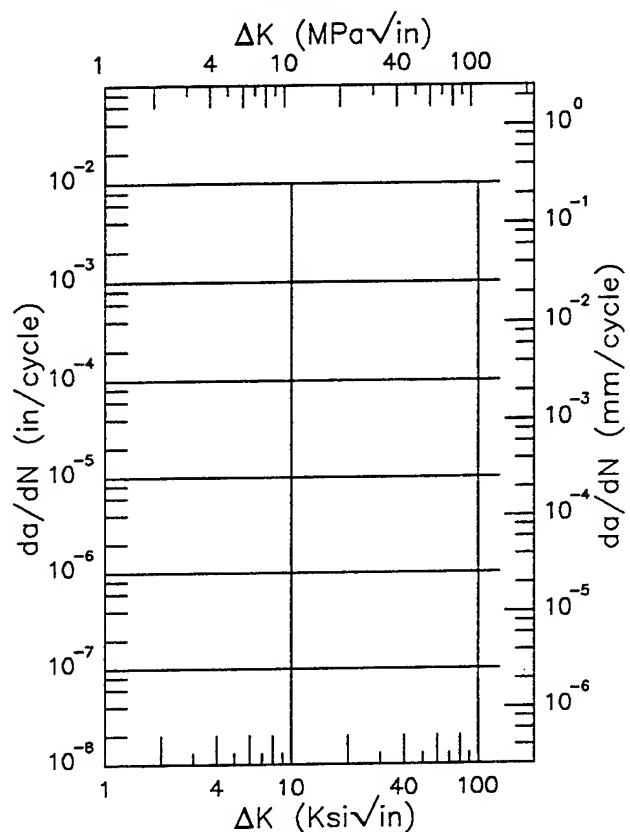
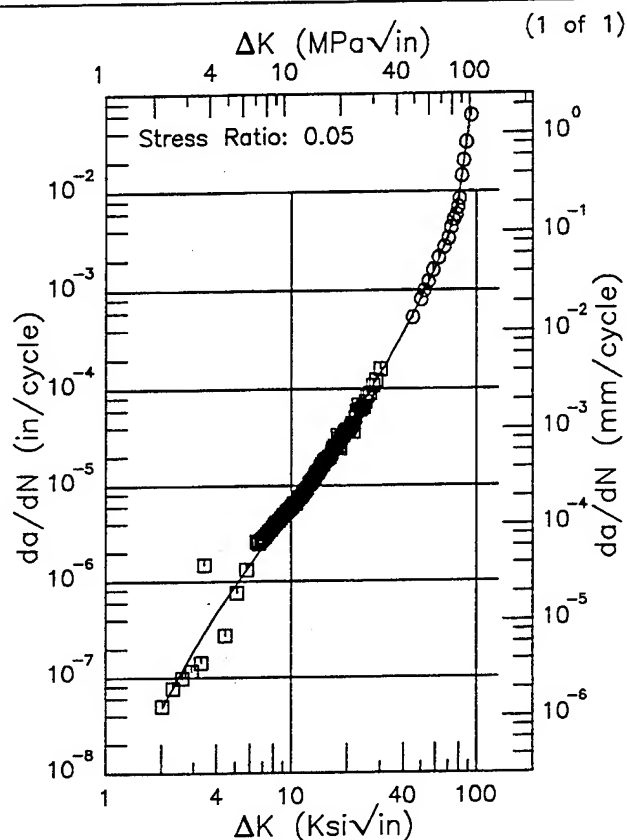


Figure 8.7.3.1.96

R 7050

Condition/Ht: T7651
 Form: 0.75 - 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 69.4 - 71.2 ksi
 Ult. Strength: 79.3 ksi
 Specimen Thk: 0.199 - 0.204 in.
 Specimen Width: 12 - 12.035 in.
 Ref: DA005;DA004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.02 (min)	0.0482
3.	0.189
4.	0.462
5.	0.885
6.	1.47
7.	2.24
8.	3.22
9.	4.41
10.	5.85
16.	21.1
20.	40.2
30.	143.
40.	377.
60.	1672.
80.	9097.
92.72 (max)	70407.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 38.02

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

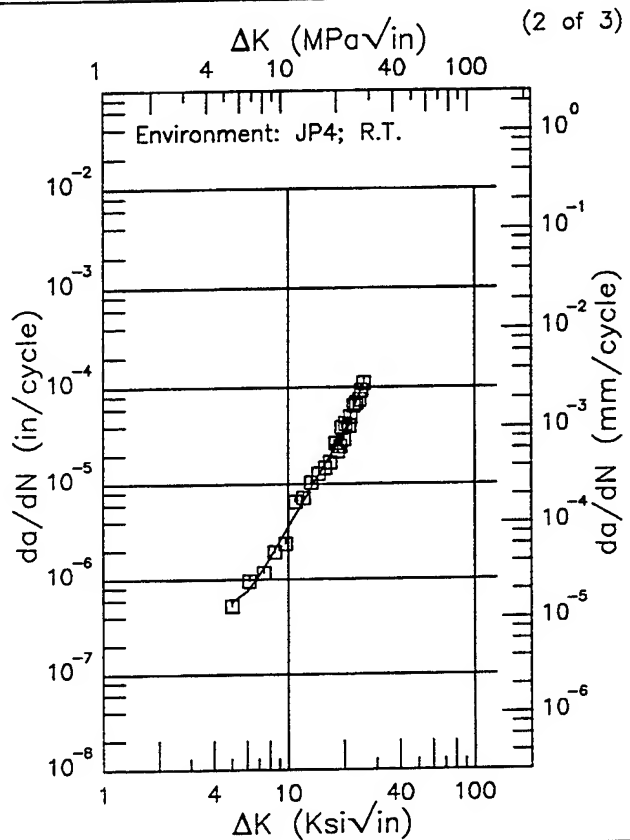
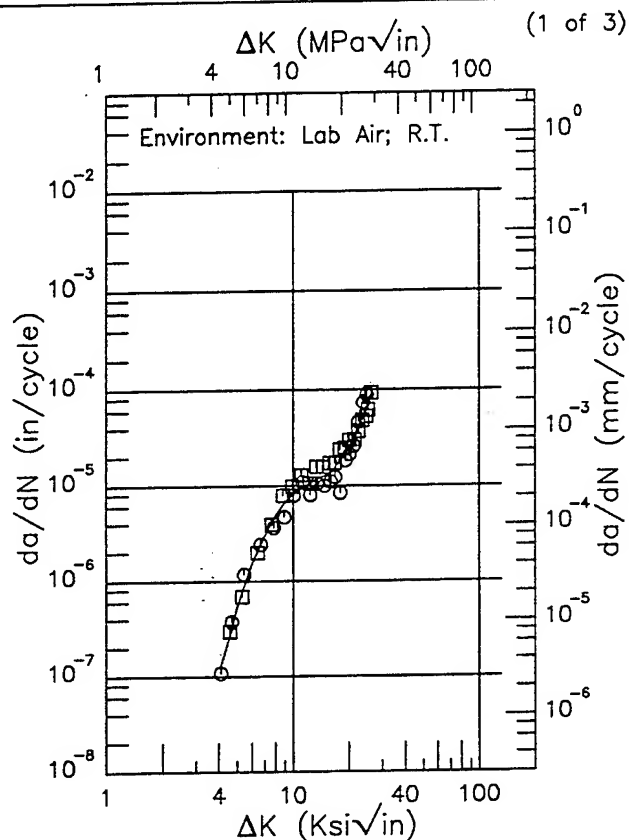
Figure 8.7.3.1.97

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E 7050

Condition/Ht: T7651
 Form: 1.25 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Frequency: 1 - 20 Hz

Yield Strength: 73.8 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.08 (min)	0.124
5.	0.535
6.	1.51
7.	3.02
8.	4.83
9.	6.68
10.	8.33
13.	11.3
16.	13.8
20.	24.4
25.	70.3
26.13 (max)	89.2

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.00 (min)	0.573
6.	0.749
7.	1.10
8.	1.65
9.	2.46
10.	3.57
13.	8.63
16.	16.5
20.	35.2
25.	101.
25.28 (max)	109.

RMS %
 Error
 21.83

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 14.35

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.98

Condition/Ht: T7651
 Form: 1.25 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Frequency: 1 - 20 Hz

Yield Strength: 73.8 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA005

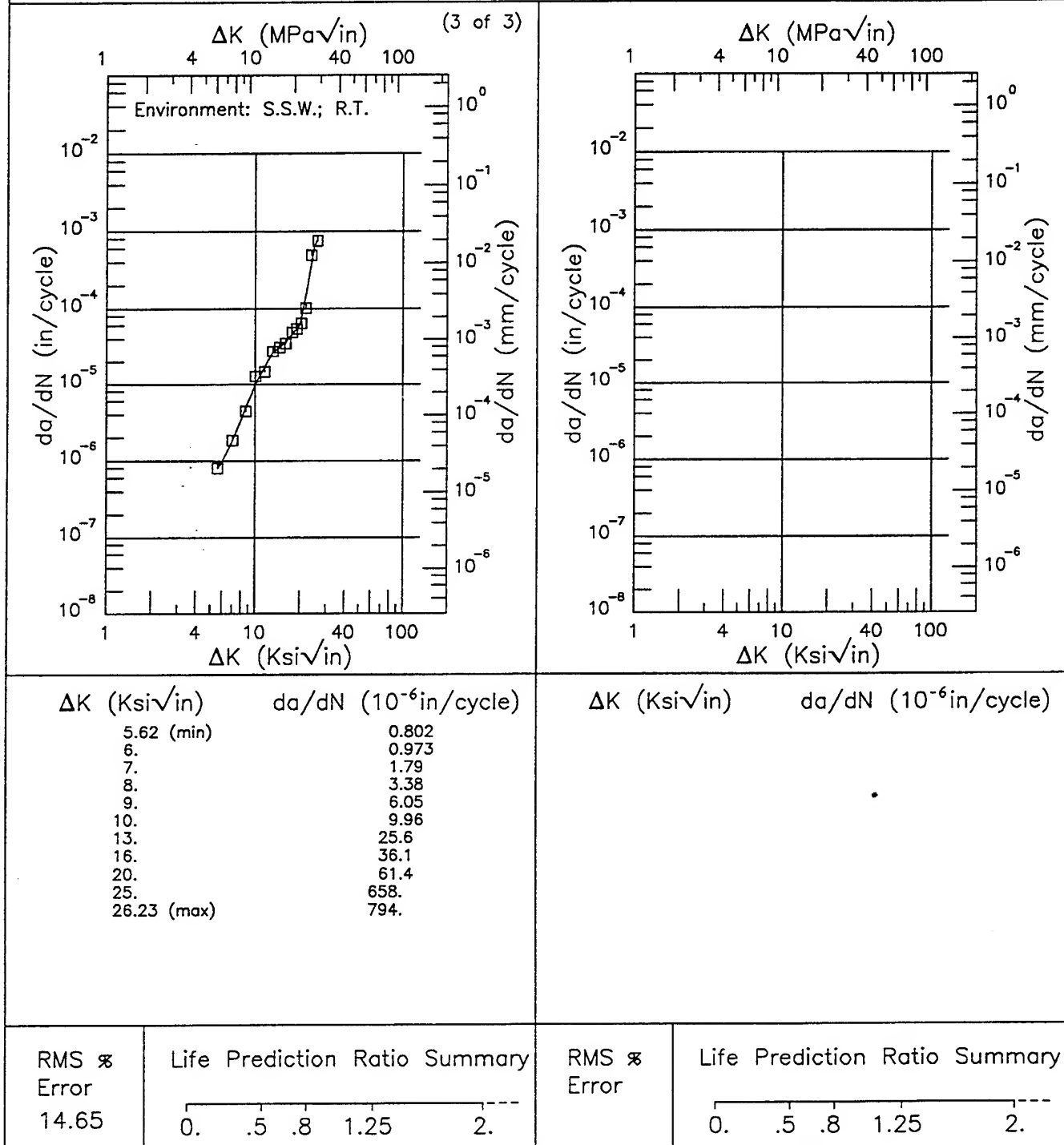
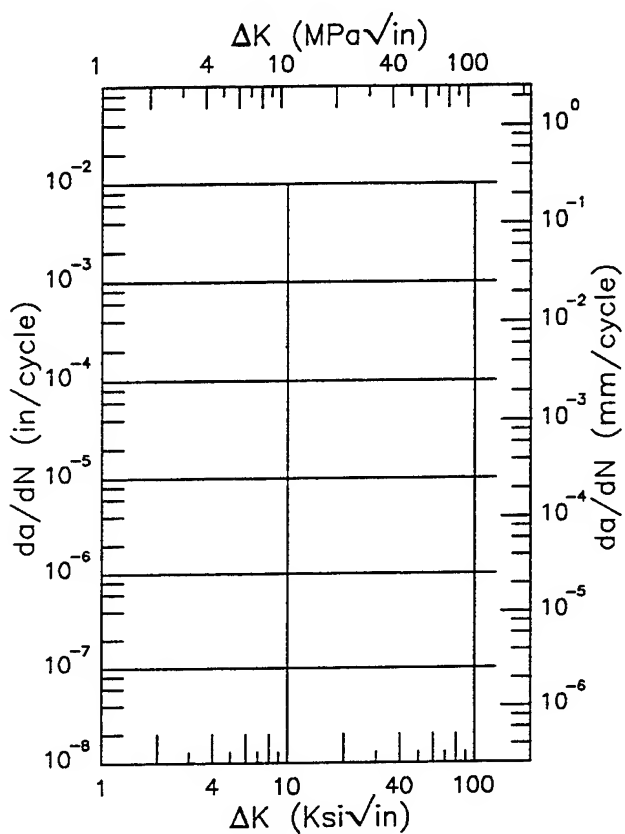
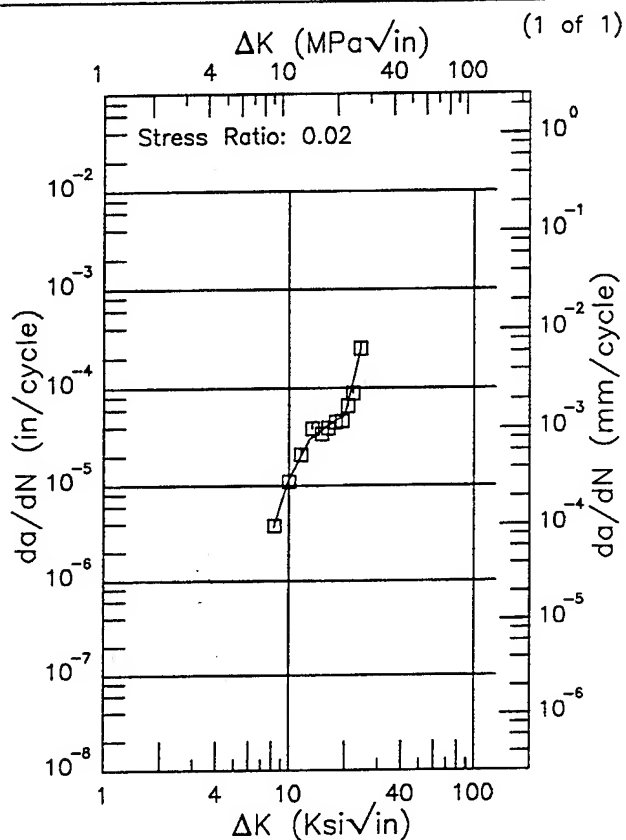


Figure 8.7.3.1.98 (Concluded)

R 7050

Condition/Ht: T7651
 Form: 1.25 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 5 - 15 Hz
 Environment: S.S.W.; RT

Yield Strength: 73.8 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA005



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
8.26 (min)	3.68
9.	6.49
10.	11.6
13.	30.3
16.	41.1
20.	53.0
24.19 (max)	252.

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 11.18

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

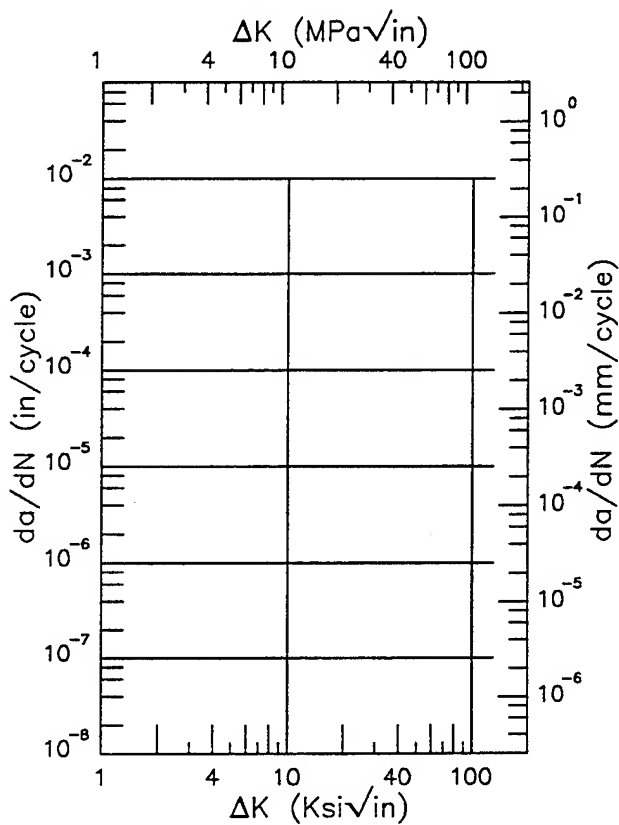
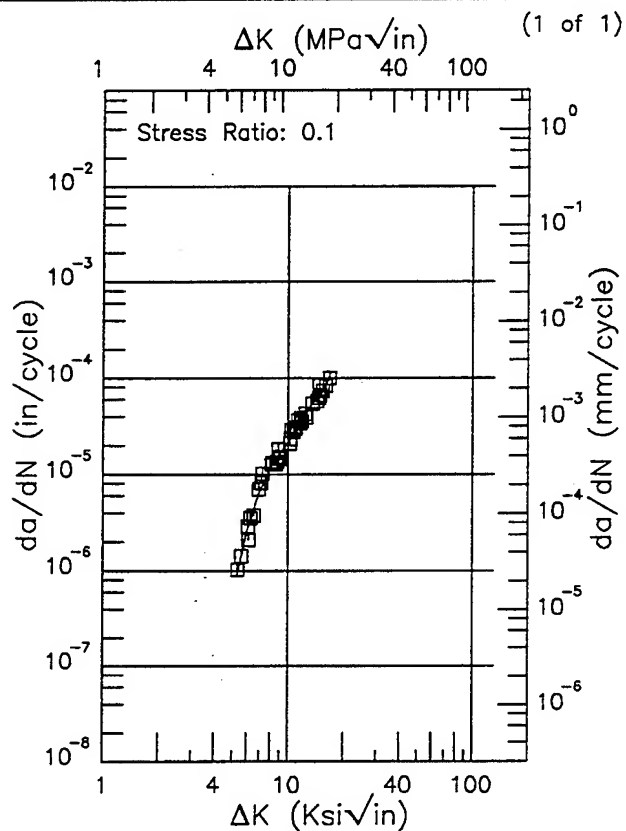
Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.99

Condition/Ht: T7651
 Form: 1.13 in. Plate
 Specimen Type:
 Orientation:
 Frequency: 1 Hz
 Environment: 3.5% NACL; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 91332

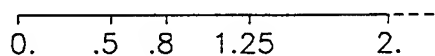


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.35 (min)	0.903
6.	2.55
7.	6.75
8.	11.7
9.	16.5
10.	21.4
13.	48.2
16.	82.6
16.69 (max)	102.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 11.09

Life Prediction Ratio Summary



RMS %
 Error

Life Prediction Ratio Summary

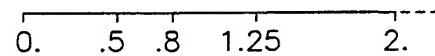
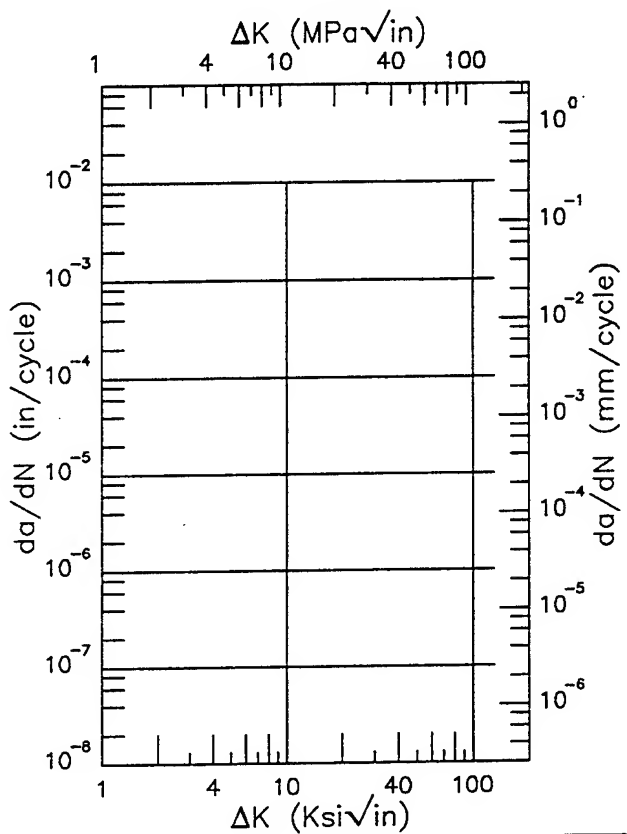
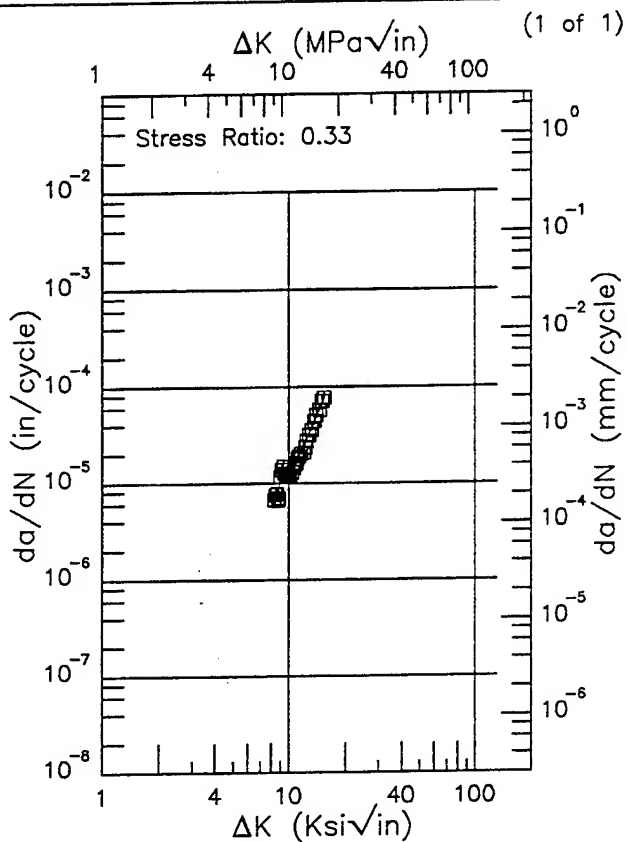


Figure 8.7.3.1.100

R | 7050 |
 Condition/Ht: T76511
 Form: 6 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Frequency: 18.3 Hz
 Environment: H.H.A.; RT

Yield Strength: 59.1 ksi
 Ult. Strength: 70.5 ksi
 Specimen Thk: 0.998 in.
 Specimen Width: 3.801 in.
 Ref: AL004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
8.28 (min)	5.66
9.	10.6
10.	12.8
13.	34.1
15.36 (max)	76.7

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS $\%$
 Error
 12.71

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS $\%$
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

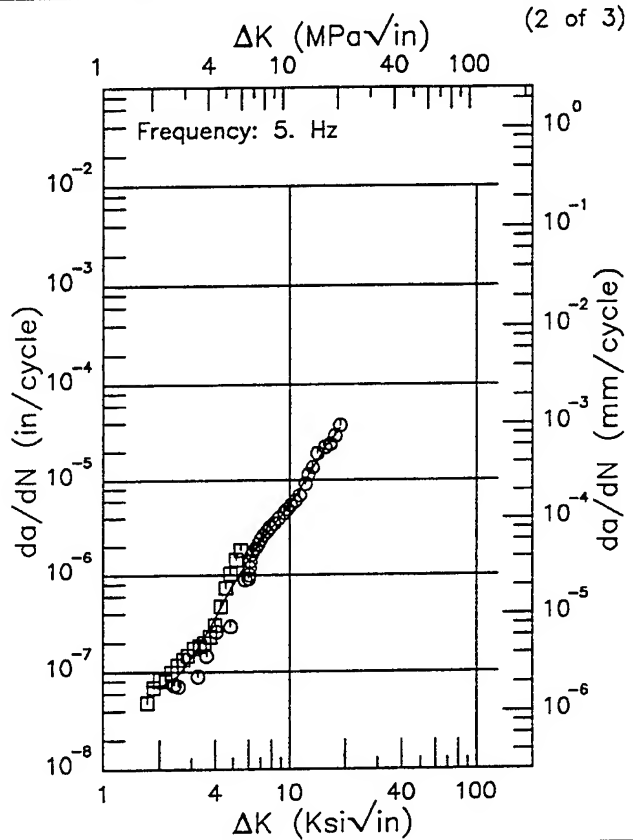
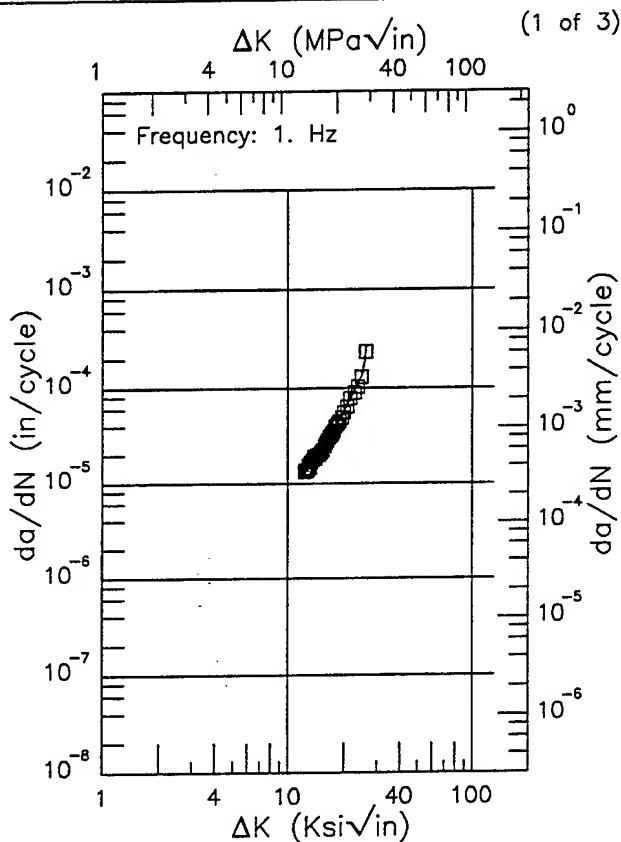
Figure 8.7.3.1.101

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F | 7050 |

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: LAB AIR; RT

Yield Strength: 72.2 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.244 - 0.252 in.
 Specimen Width: 2 - 2.008 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
12.26 (min)	12.8
13.	15.3
16.	26.4
20.	57.9
25.	139.
26.13 (max)	234.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.72 (min)	0.0733
2.	0.0695
2.5	0.0900
3.	0.140
3.5	0.225
4.	0.358
5.	0.791
6.	1.44
7.	2.21
8.	3.09
9.	4.16
10.	5.49
13.	12.2
16.	23.3
18.78 (max)	35.2

RMS \times
 Error
 3.57

Life Prediction Ratio Summary

 0. .5 .8 1.25 2. ---

RMS \times
 Error
 24.69

Life Prediction Ratio Summary

 0. .5 .8 1.25 2. ---

Figure 8.7.3.1.102

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: LAB AIR; RT

Yield Strength: 72.2 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.244 - 0.252 in.
 Specimen Width: 2 - 2.008 in.
 Ref: DA004;DA005

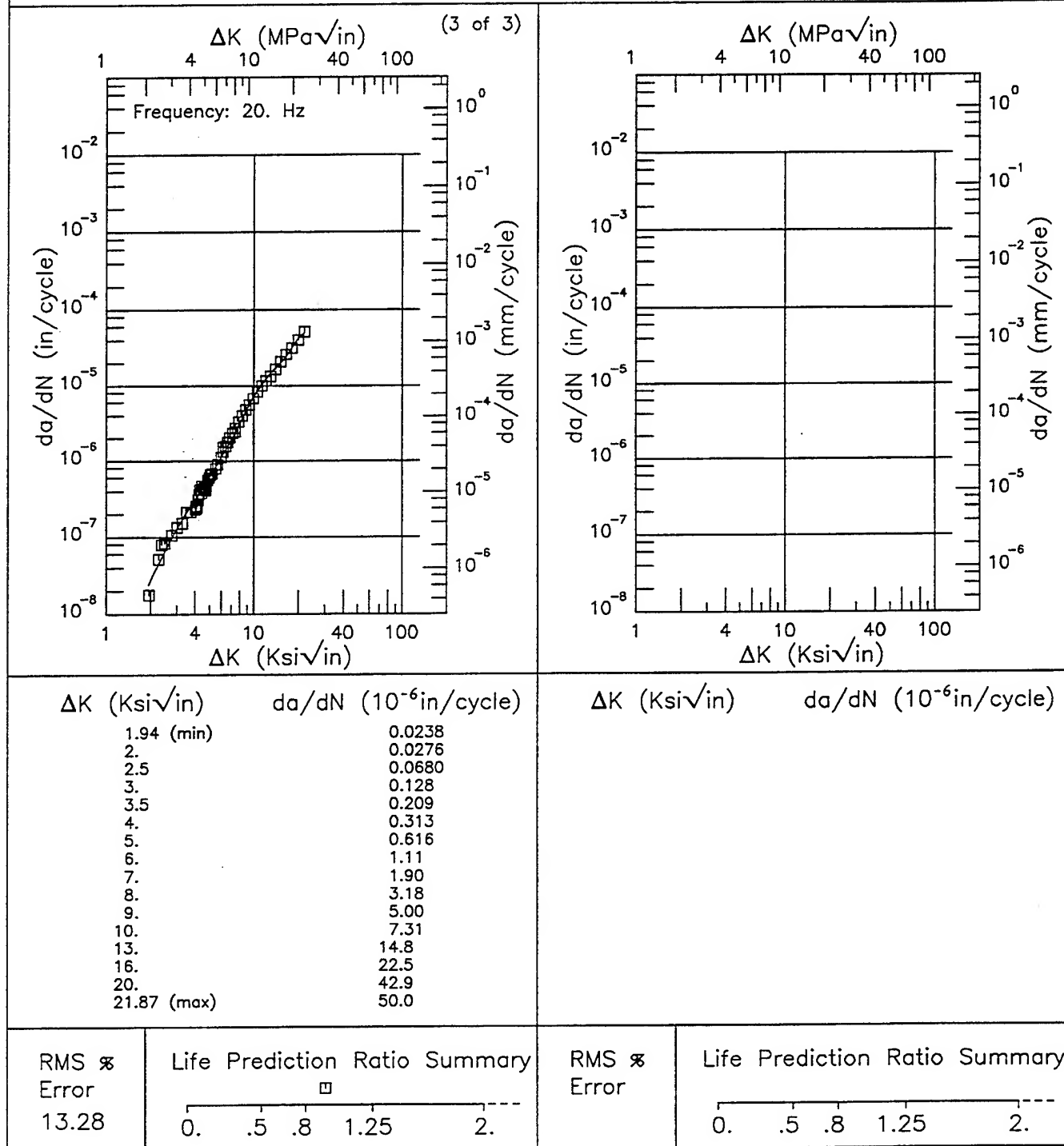


Figure 8.7.3.1.102 (Concluded)

R

7050

Condition/Ht: T76511
 Form: 0.75 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.498 in.
 Specimen Width: 1.998 in.
 Ref: DA004

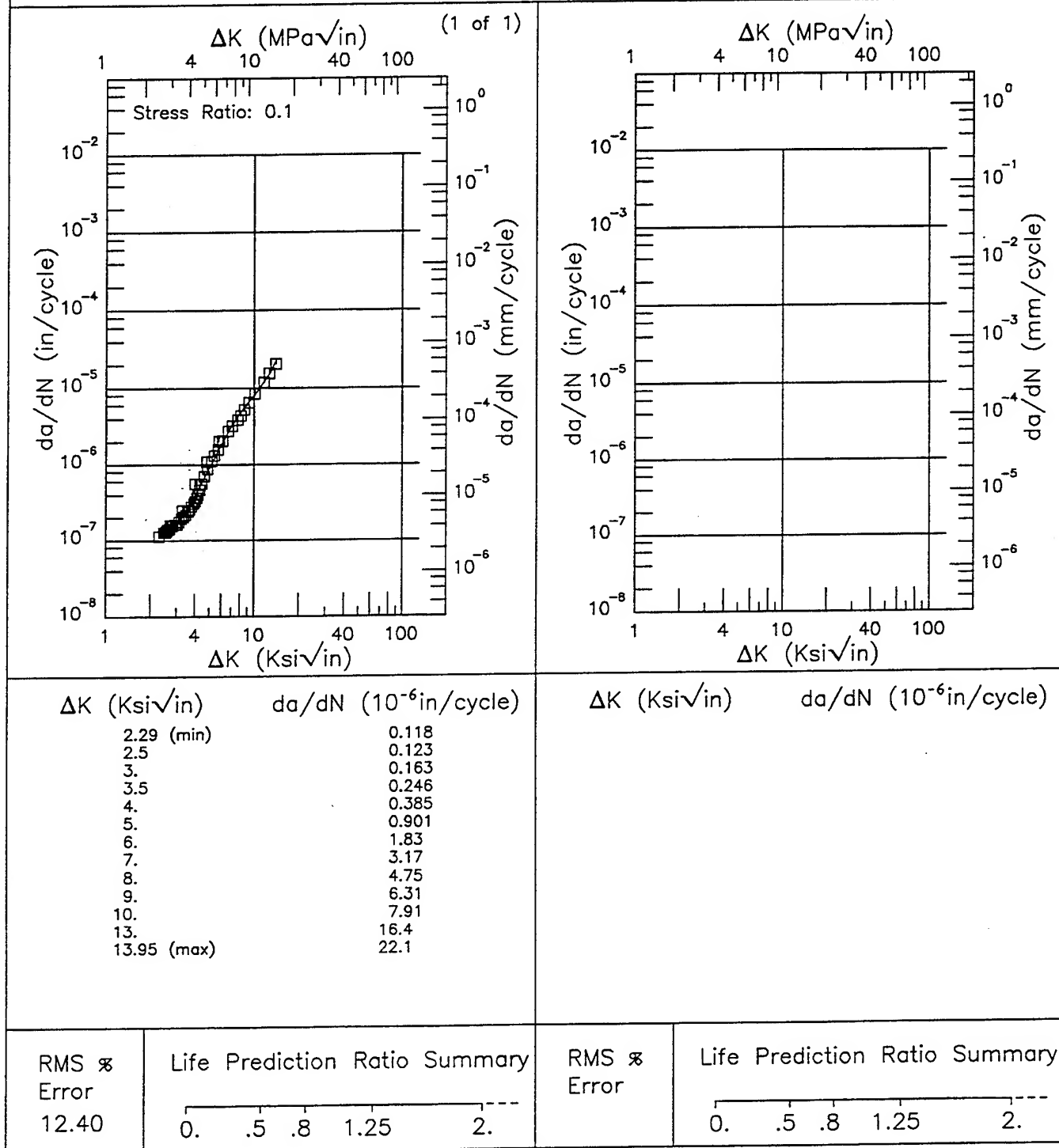


Figure 8.7.3.1.103

Condition/Ht: T76511
 Form: 0.44 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.151 - 0.152 in.
 Specimen Width: 3 in.
 Ref: 86844

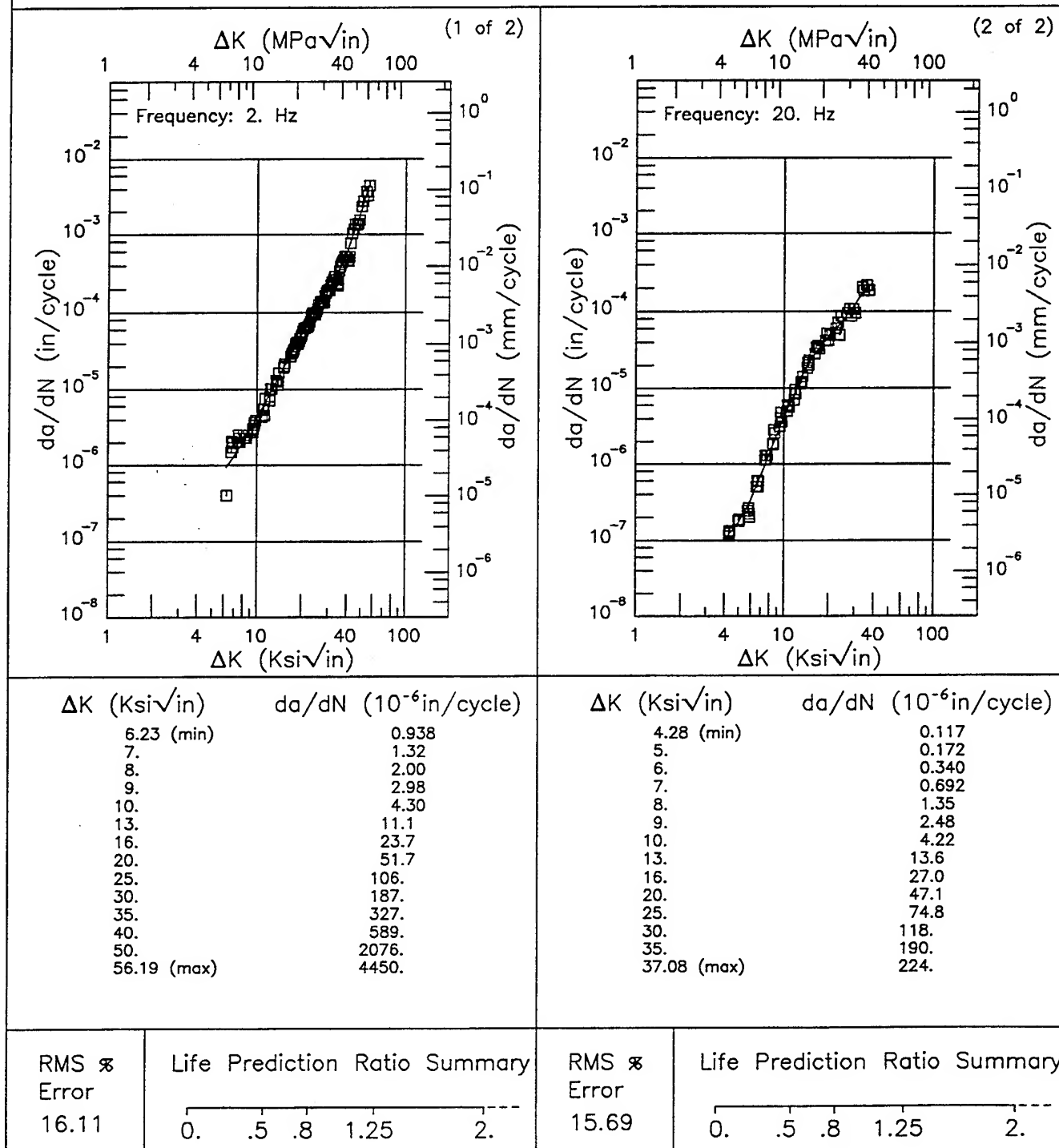
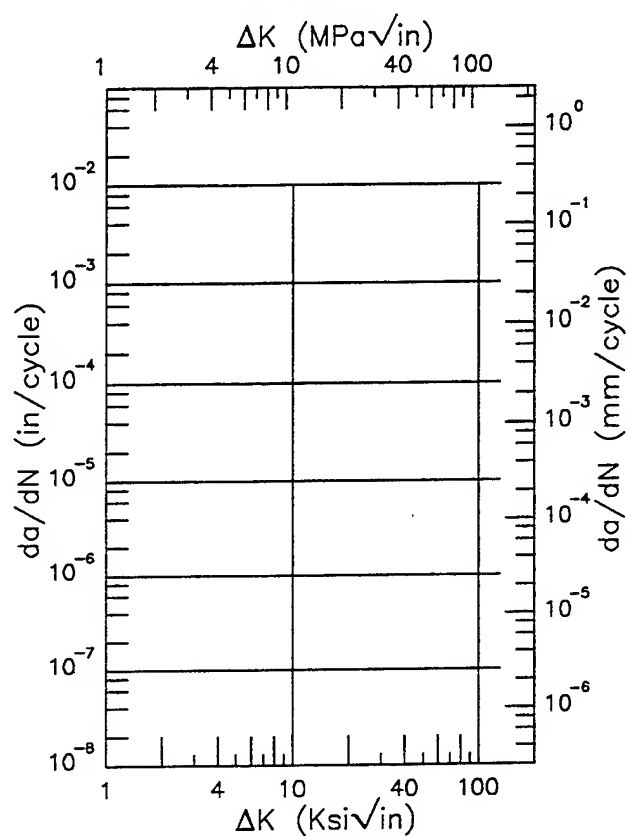
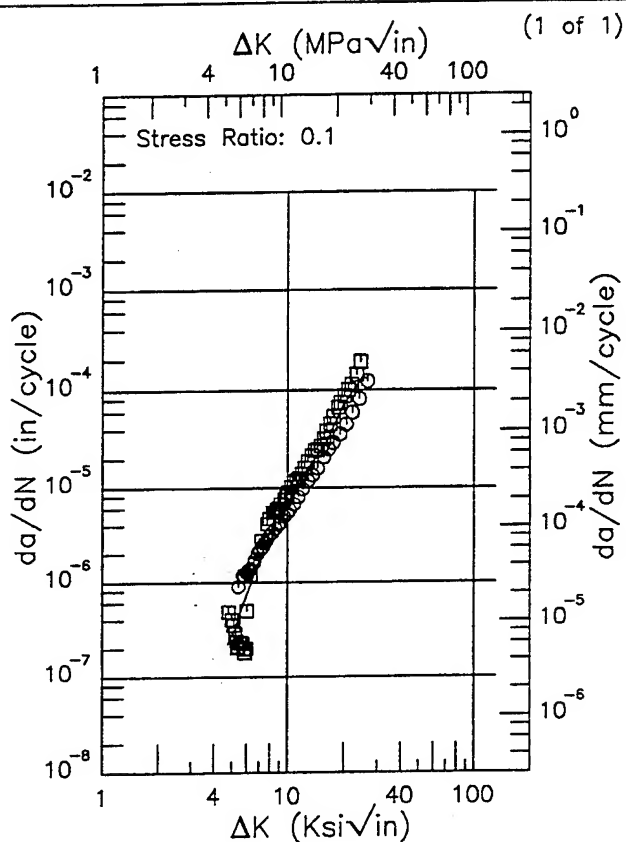


Figure 8.7.3.1.104

7050

Condition/Ht: T76511
Form: 0.75 - 1.5 in. Extrusion
Specimen Type: CT
Orientation: L-T
Frequency: 1 Hz
Environment: DIST WATER; RT

Yield Strength: 77 - 80.6 ksi
Ult. Strength: 87 ksi
Specimen Thk: 0.251 in.
Specimen Width: 2 - 2.003 in.
Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.79 (min)	0.223
5.	0.276
6.	0.726
7.	1.68
8.	3.32
9.	5.66
10.	8.43
13.	16.5
16.	29.3
20.	72.7
25.	134.
26.54 (max)	129.

$$\Delta K \text{ (Ksi}\sqrt{\text{in}}) \quad da/dN \text{ (10}^{-6}\text{in/cycle)}$$


RMS Error
40.84

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

Life Prediction Ratio Summary



0. .5 .8 1.25 2.---

Figure 8.7.3.1.105

Condition/Ht: T76511
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 5 - 20 Hz
 Environment: H2O(D)/LAB AIR; RT

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.251 in.
 Specimen Width: 2.003 in.
 Ref: DA005

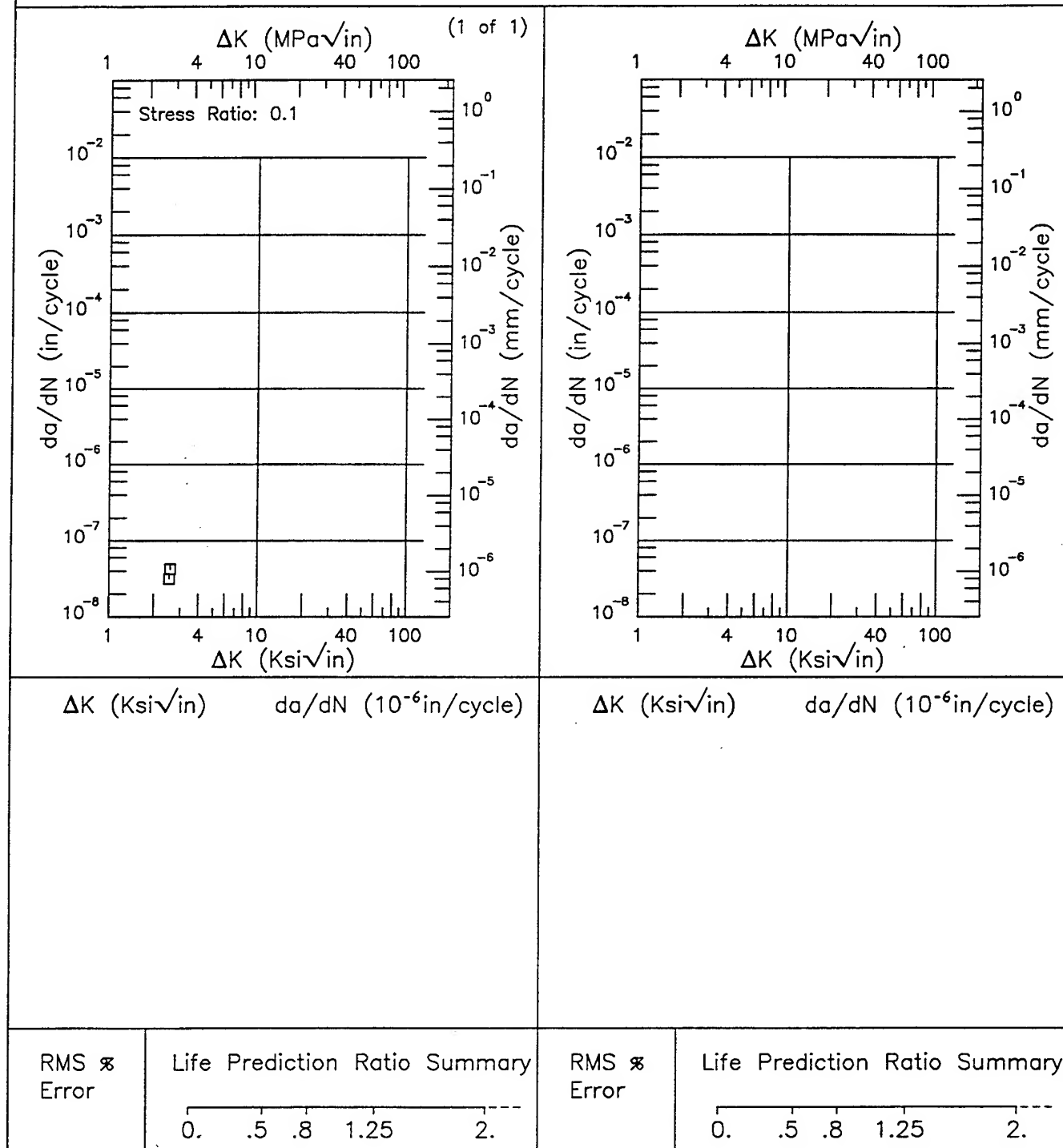


Figure 8.7.3.1.106

F | 7050 |

Condition/Ht: T76511
 Form: 0.44 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: 3.5% NaCl; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.152 in.
 Specimen Width: 3 in.
 Ref: 86844

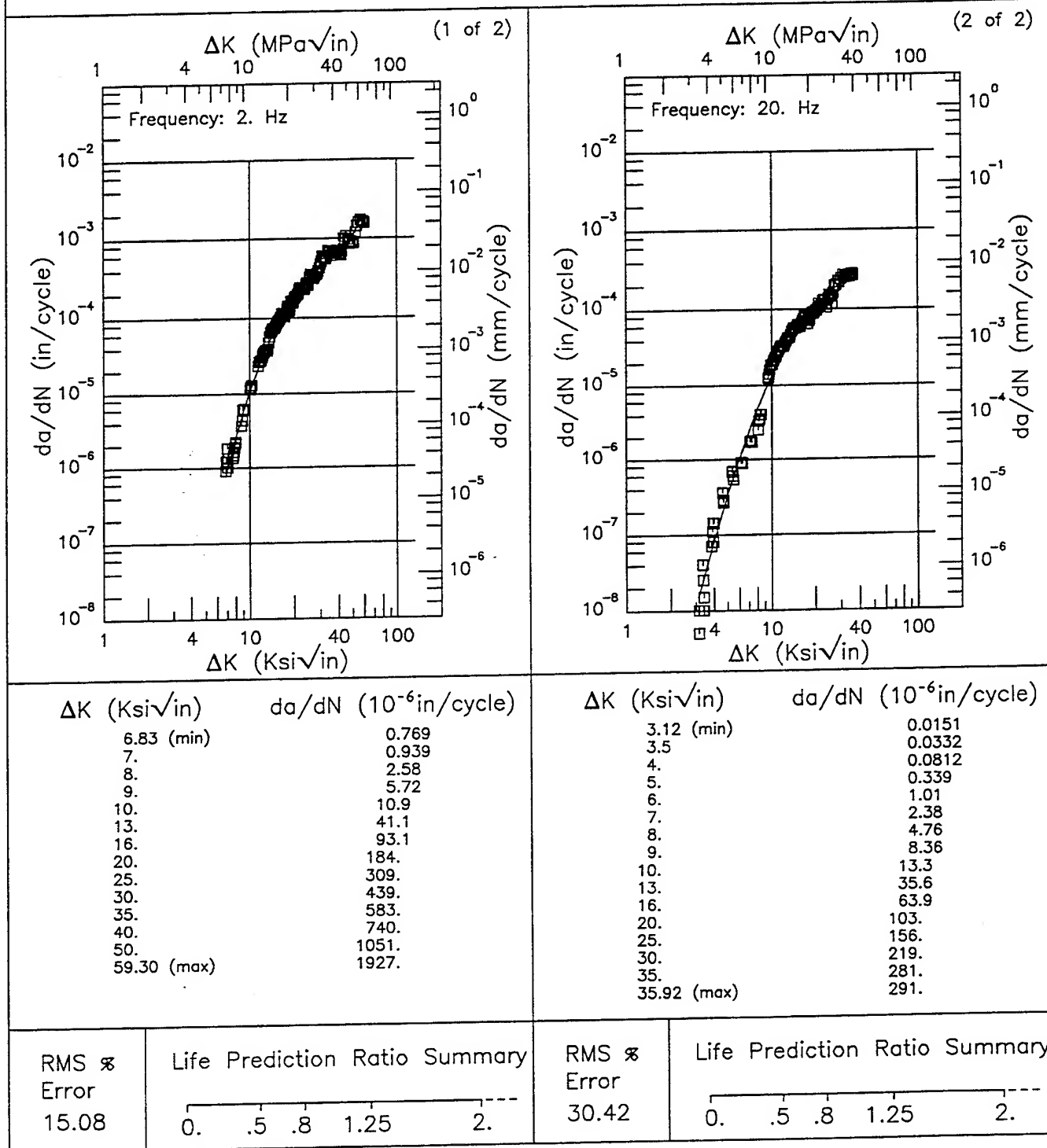


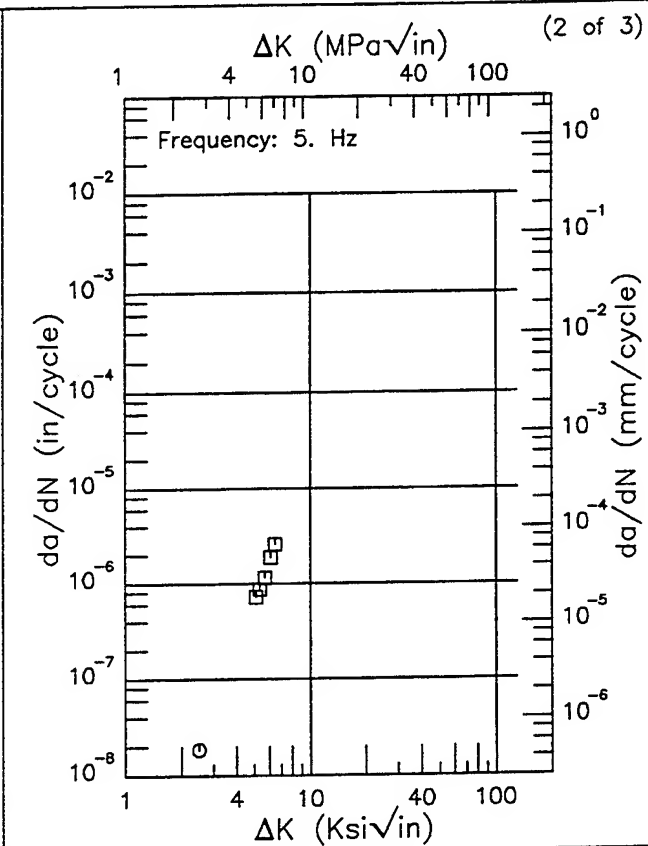
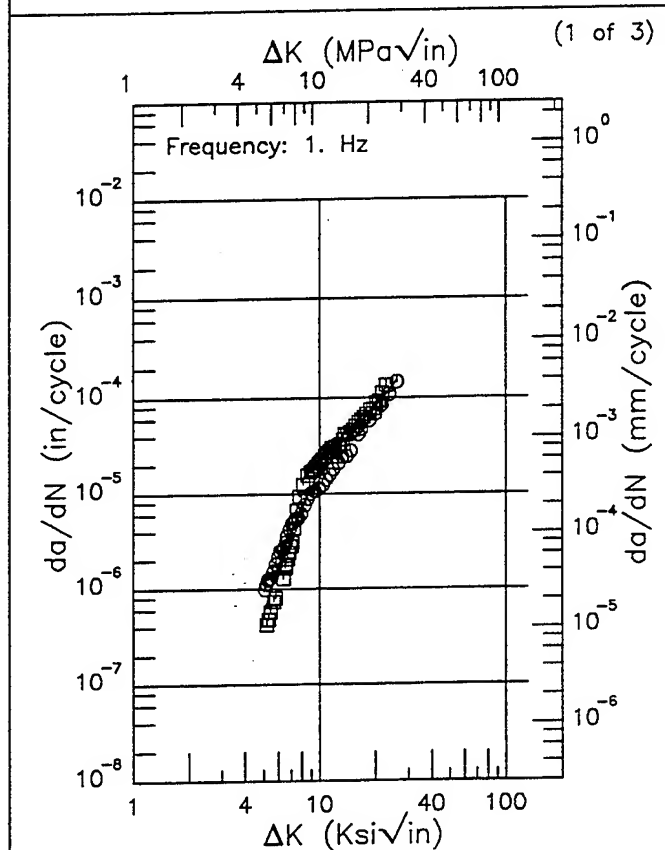
Figure 8.7.3.1.107

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F 7050

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Environment: S.T.W.; RT

Yield Strength: 77 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.248 - 0.251 in.
 Specimen Width: 2 - 2.005 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.07 (min)	0.589
6.	1.81
7.	4.20
8.	7.63
9.	11.9
10.	16.7
13.	33.0
16.	51.0
20.	80.4
25.	136.
25.93 (max)	149.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 28.79

Life Prediction Ratio Summary

□ ○

0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.7.3.1.108

Condition/Ht: T76511

Form: 0.75 - 1.5 in. Extrusion

Specimen Type: CT

Orientation: L-T

Stress Ratio: 0.1

Environment: S.T.W.; RT

Yield Strength: 77 - 80.6 ksi

Ult. Strength: 87 ksi

Specimen Thk: 0.248 - 0.251 in.

Specimen Width: 2 - 2.005 in.

Ref: DA004;DA005

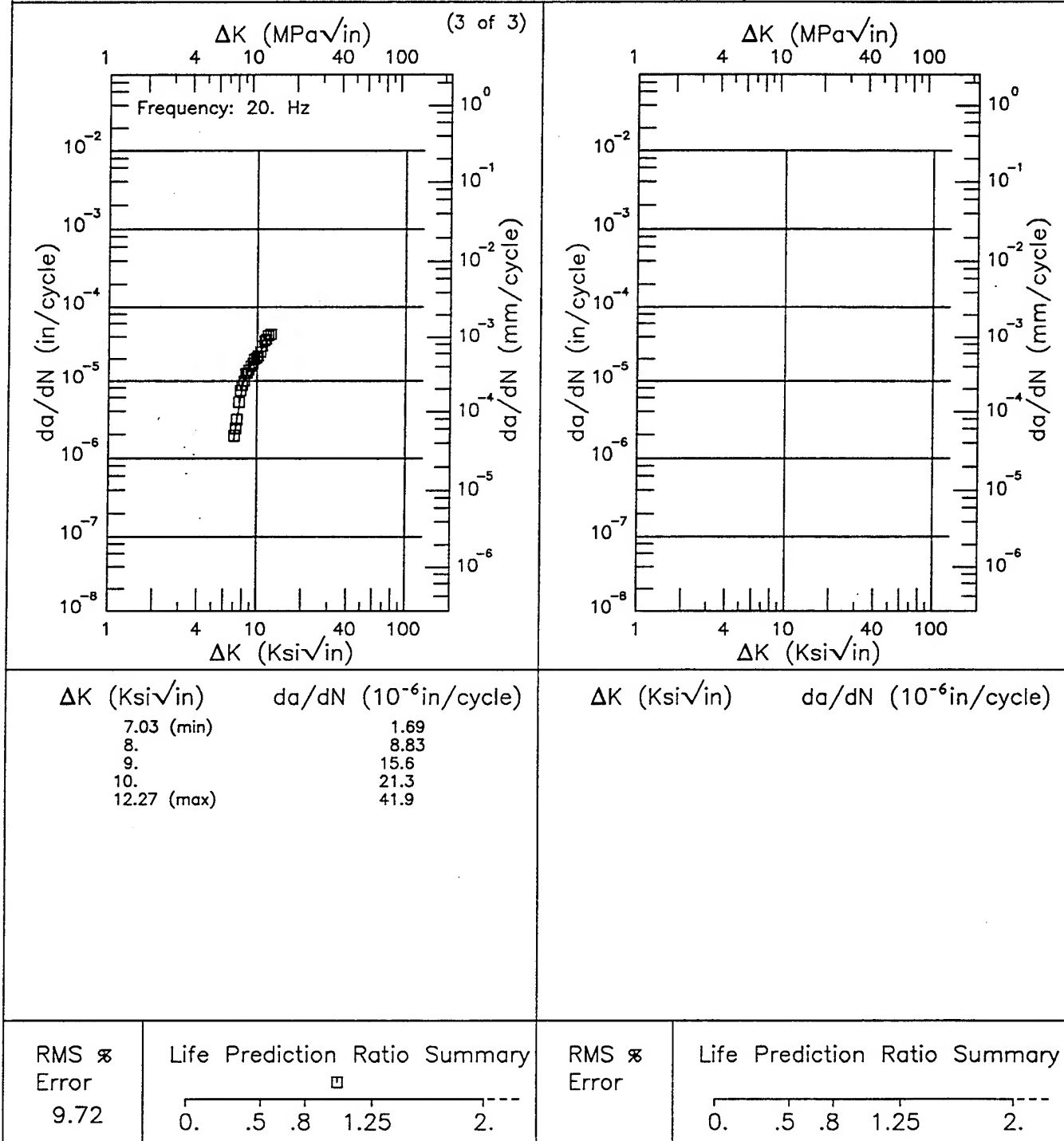
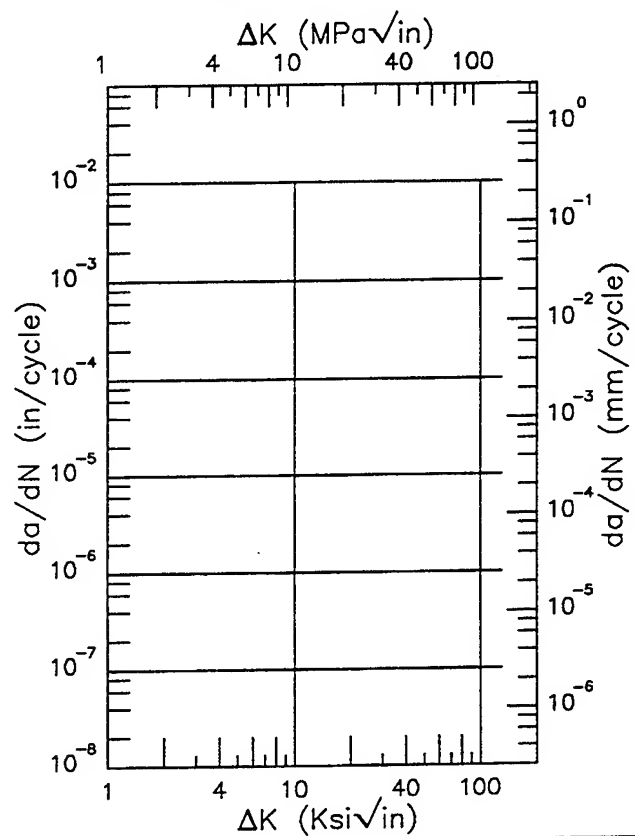
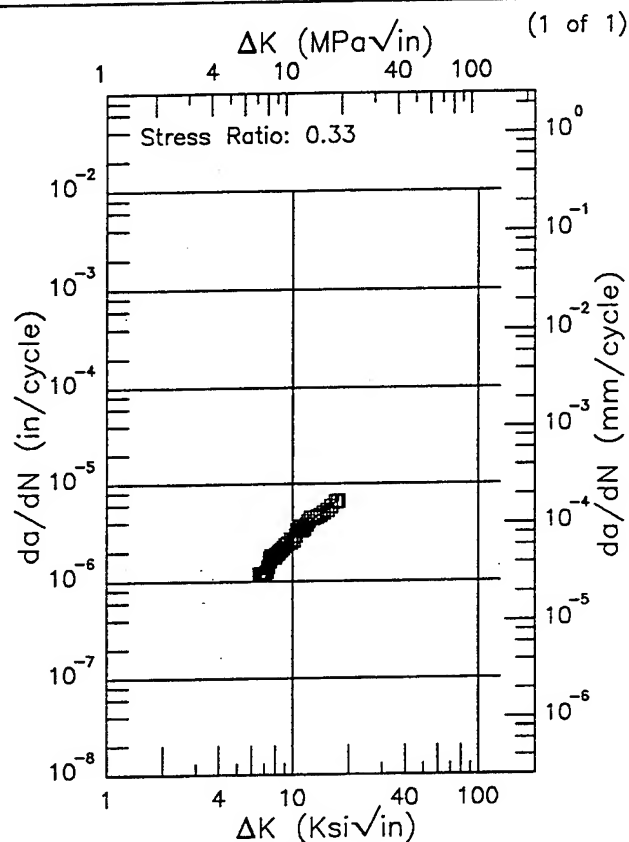


Figure 8.7.3.1.108 (Concluded)

R 7050 |
 Condition/Ht: T76511
 Form: 5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 18.3 Hz
 Environment: L.H.A.; RT

Yield Strength: 82.3 ksi
 Ult. Strength: 87.6 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.801 in.
 Ref: AL004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.63 (min)	1.08
7.	1.27
8.	1.78
9.	2.28
10.	2.79
13.	4.42
16.	5.62
17.43 (max)	6.89

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS $\%$
 Error
 5.51

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS $\%$
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.7.3.1.109

Condition/Ht: T76511
 Form: 1.16 - 5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 18.3 Hz
 Environment: L.H.A.; RT

Yield Strength: 76.4 - 82.3 ksi
 Ult. Strength: 83.6 - 87.6 ksi
 Specimen Thk: 1.001 - 1.003 in.
 Specimen Width: 3.1 in.
 Ref: AL004

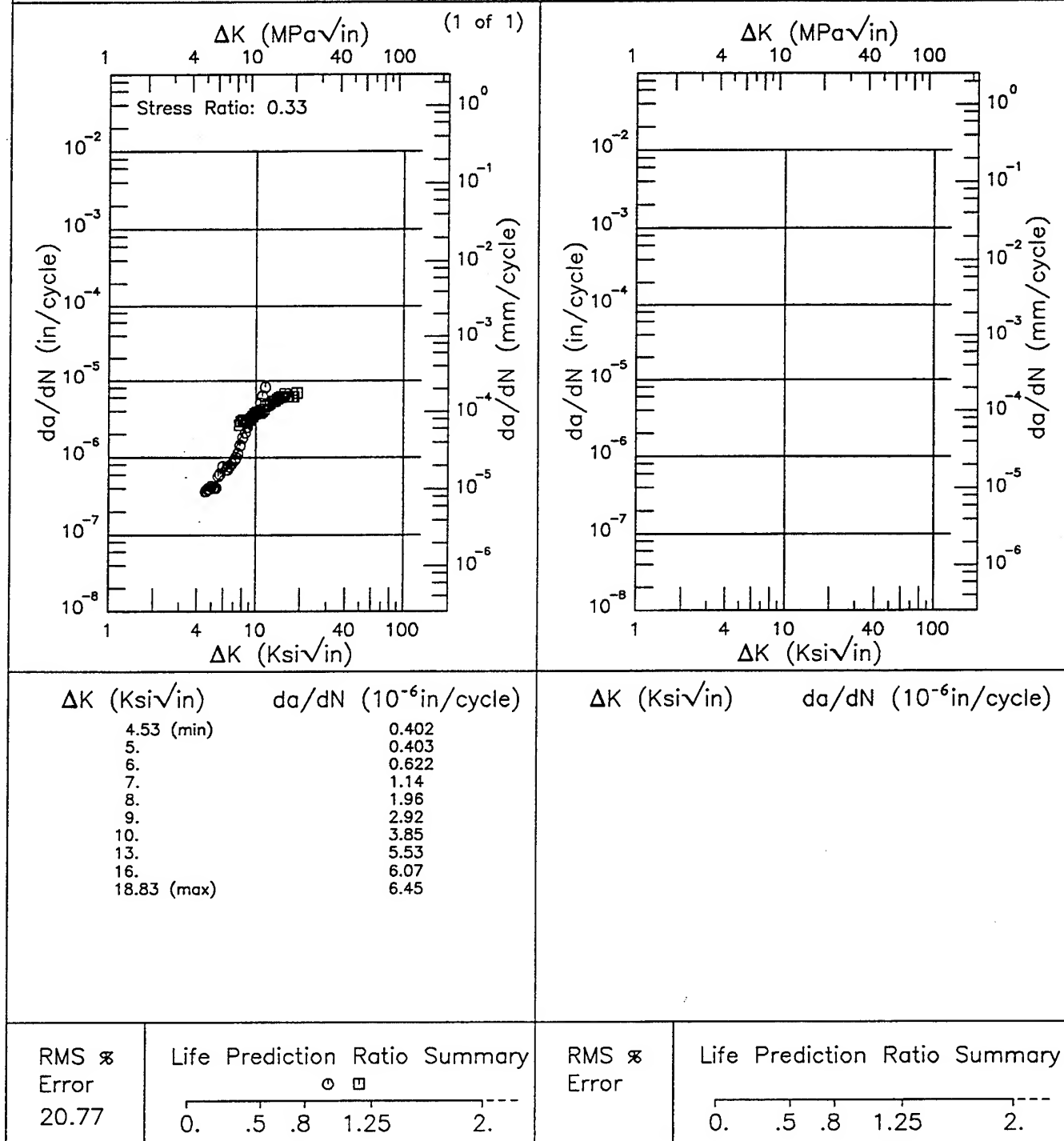


Figure 8.7.3.1.110

R

7050

Condition/Ht: T76511
 Form: 1.16 – 5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 18.3 Hz
 Environment: H.H.A.; RT

Yield Strength: 76.4 – 82.6 ksi
 Ult. Strength: 83.6 – 87.6 ksi
 Specimen Thk: 1 in.
 Specimen Width: 3.801 in.
 Ref: AL004

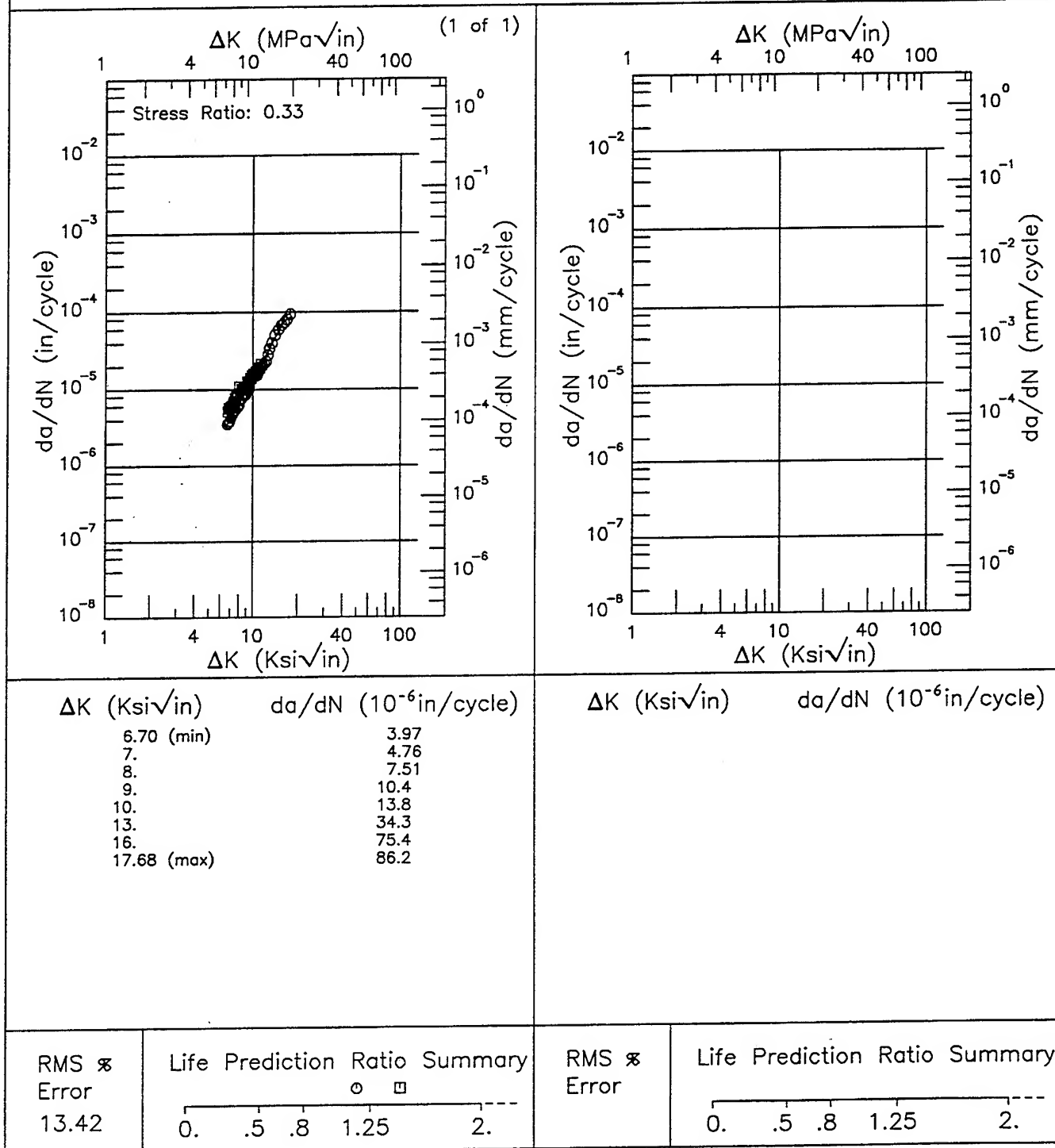


Figure 8.7.3.1.111

Condition/Ht: T76511
 Form: 1.16 - 5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 76.4 - 82.3 ksi
 Ult. Strength: 83.6 - 87.6 ksi
 Specimen Thk: 0.999 - 1.007 in.
 Specimen Width: 3.1 in.
 Ref: AL004

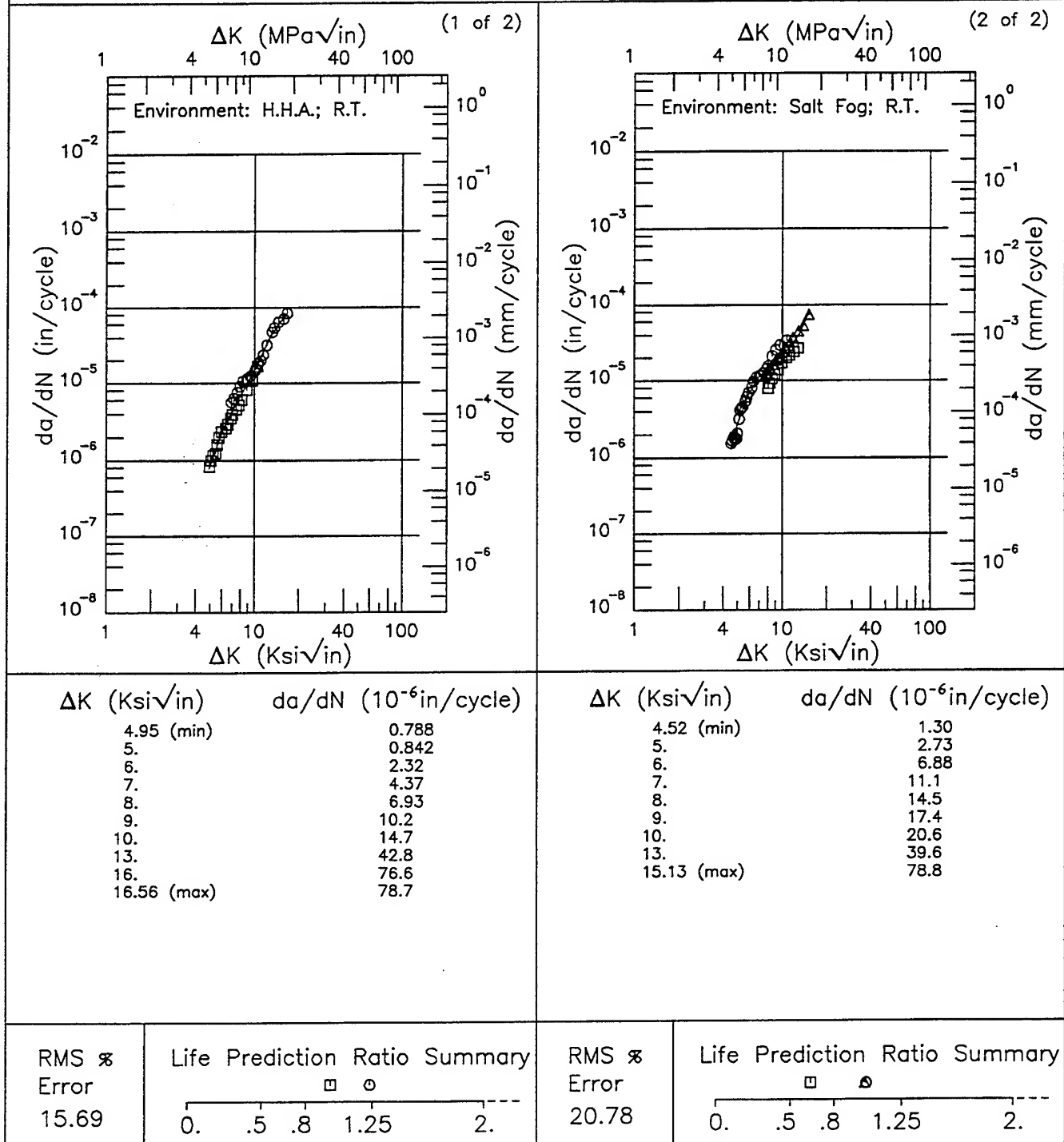
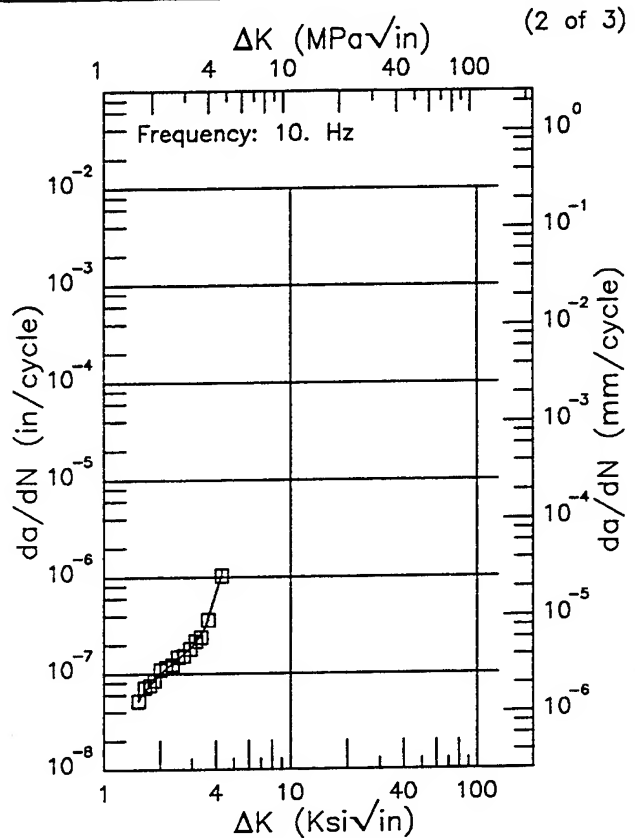
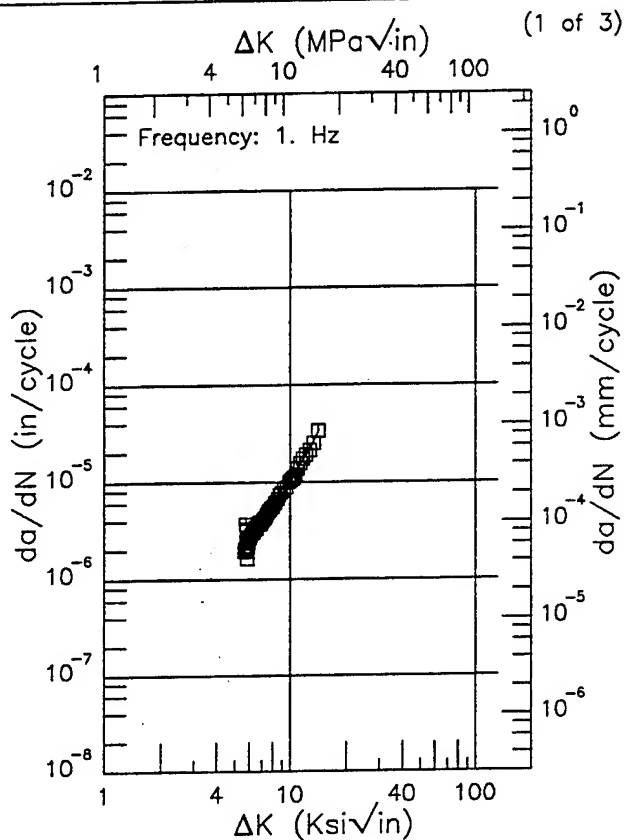


Figure 8.7.3.1.112

F 7050

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4
 Environment: LAB AIR; RT

Yield Strength: 77 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 2.003 in.
 Ref: DA004;DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.64 (min)	2.32
6.	2.69
7.	3.98
8.	5.62
9.	7.66
10.	10.4
13.	23.4
14.06 (max)	33.3

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.53 (min)	0.0522
1.6	0.0606
2.	0.101
2.5	0.142
3.	0.190
3.5	0.302
4.	0.700
4.26 (max)	1.02

RMS %
 Error
 10.98

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 4.15

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.113

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4
 Environment: LAB AIR; RT

Yield Strength: 77 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 2.003 in.
 Ref: DA004;DA005

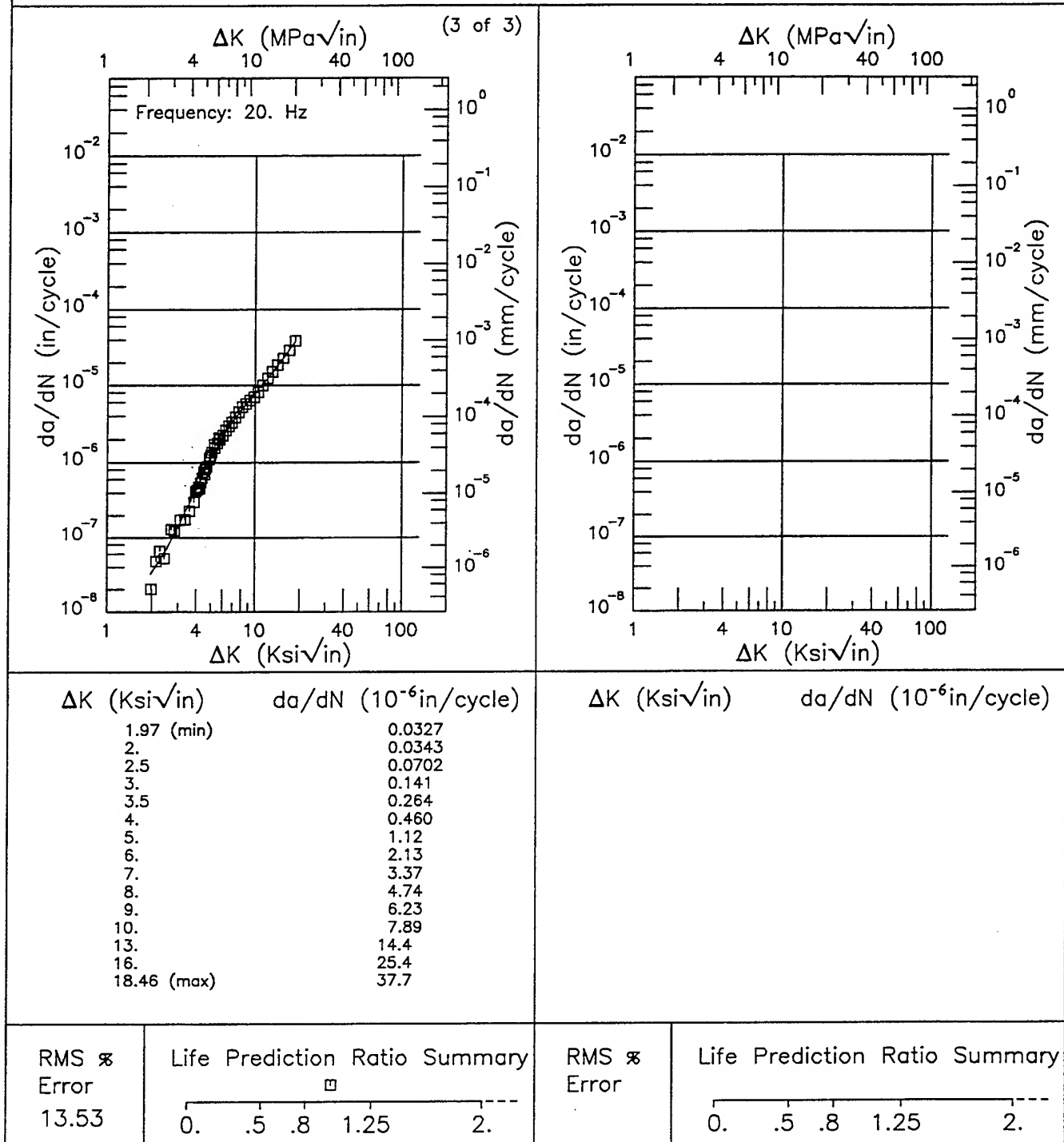


Figure 8.7.3.1.113 (Concluded)

EF

7050

Condition/Ht: T76511
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.4

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.252 in.
 Specimen Width: 2.005 in.
 Ref: DA005

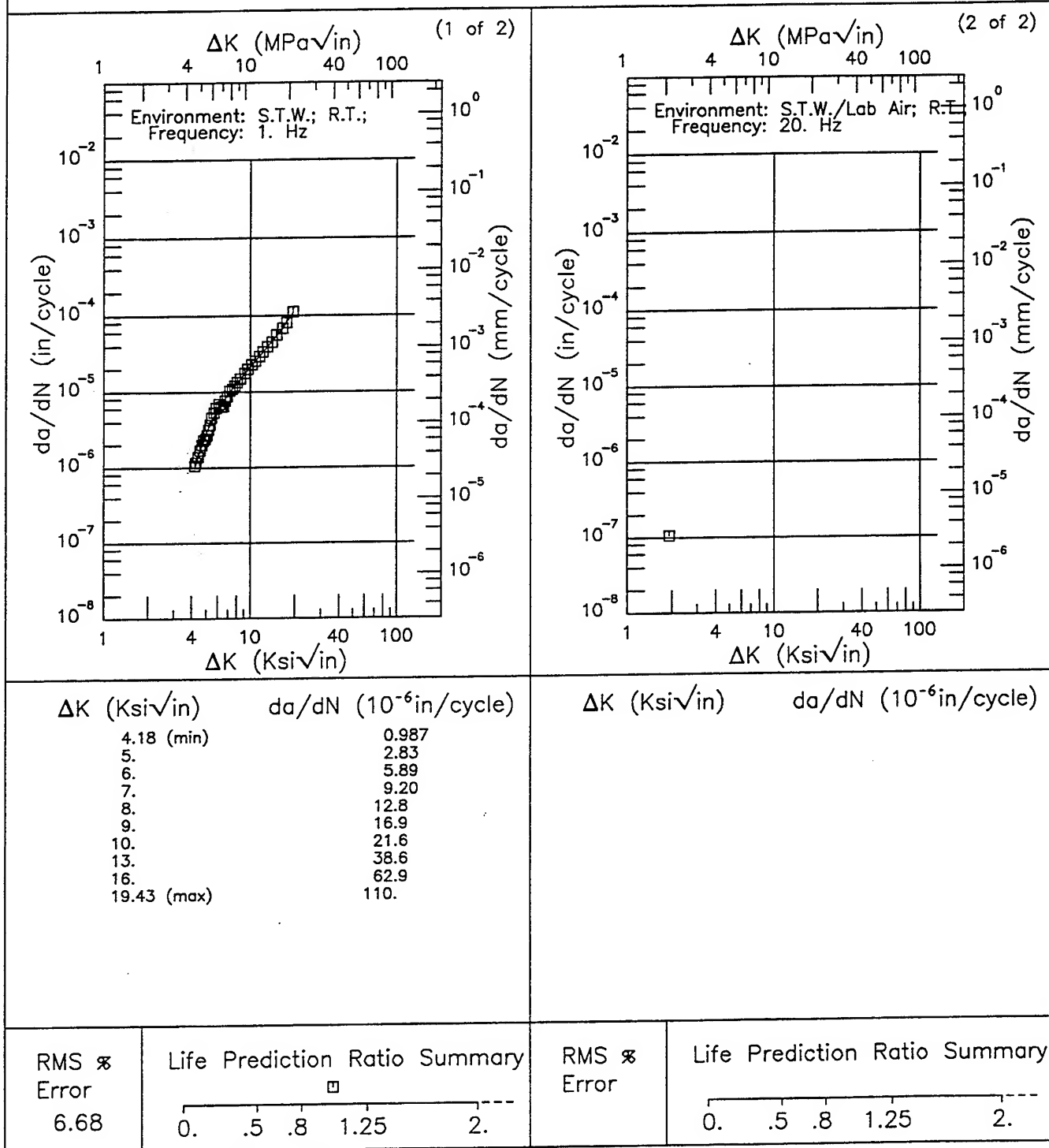


Figure 8.7.3.1.114

Condition/Ht: T76511
 Form: 1.16 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 18.3 Hz
 Environment: L.H.A.; RT

Yield Strength: 76.4 ksi
 Ult. Strength: 83.6 ksi
 Specimen Thk: 1.007 in.
 Specimen Width: 3.1 in.
 Ref: AL004

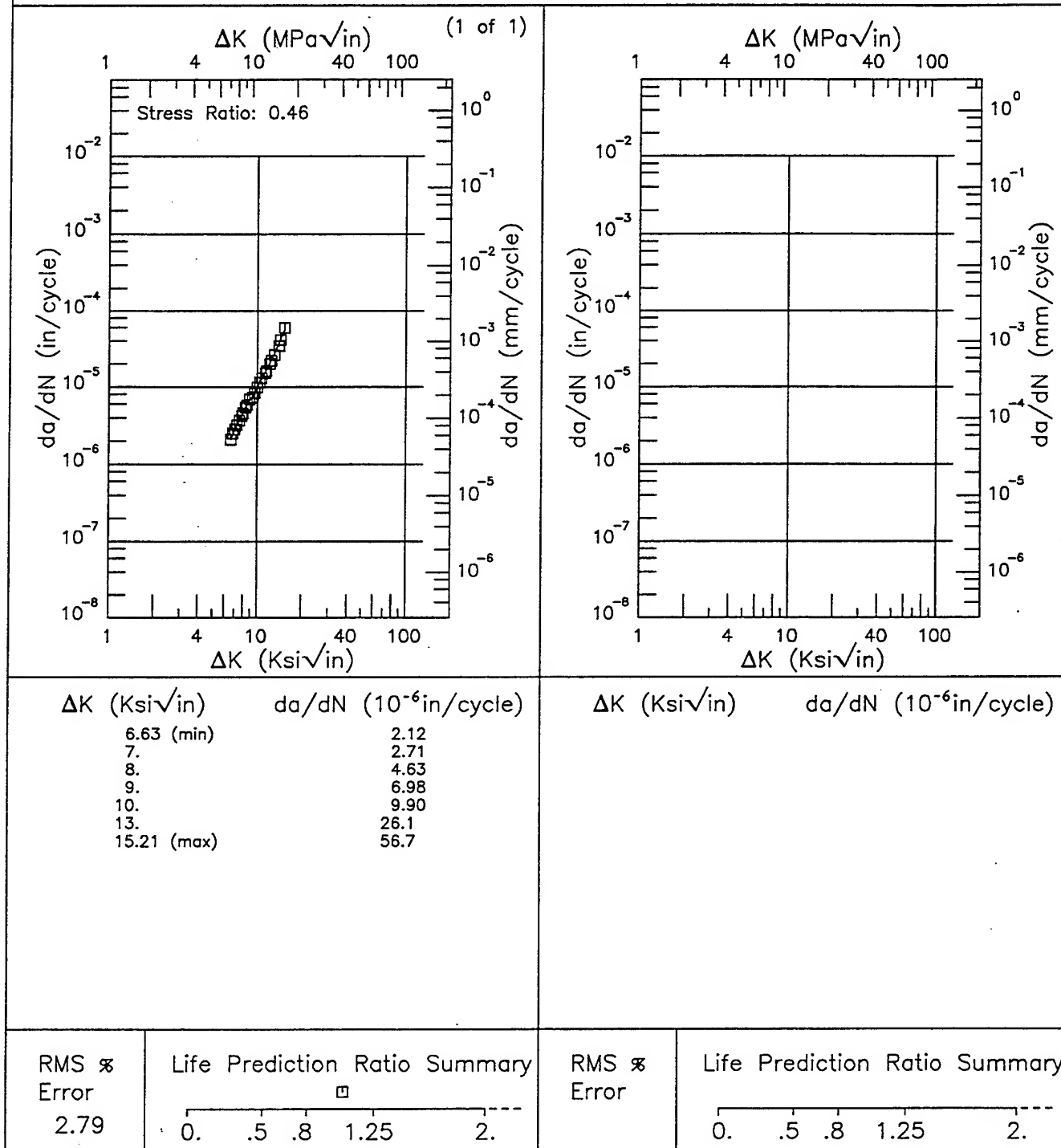


Figure 8.7.3.1.115

F

7050

Condition/Ht: T76511

Form: 0.75 - 1.5 in. Extrusion

Specimen Type: CT

Orientation: L-T

Stress Ratio: 0.8

Environment: LAB AIR; RT

Yield Strength: 77 - 80.6 ksi

Ult. Strength: 87 ksi

Specimen Thk: 0.249 - 0.25 in.

Specimen Width: 2.002 - 2.003 in.

Ref: DA004;DA005

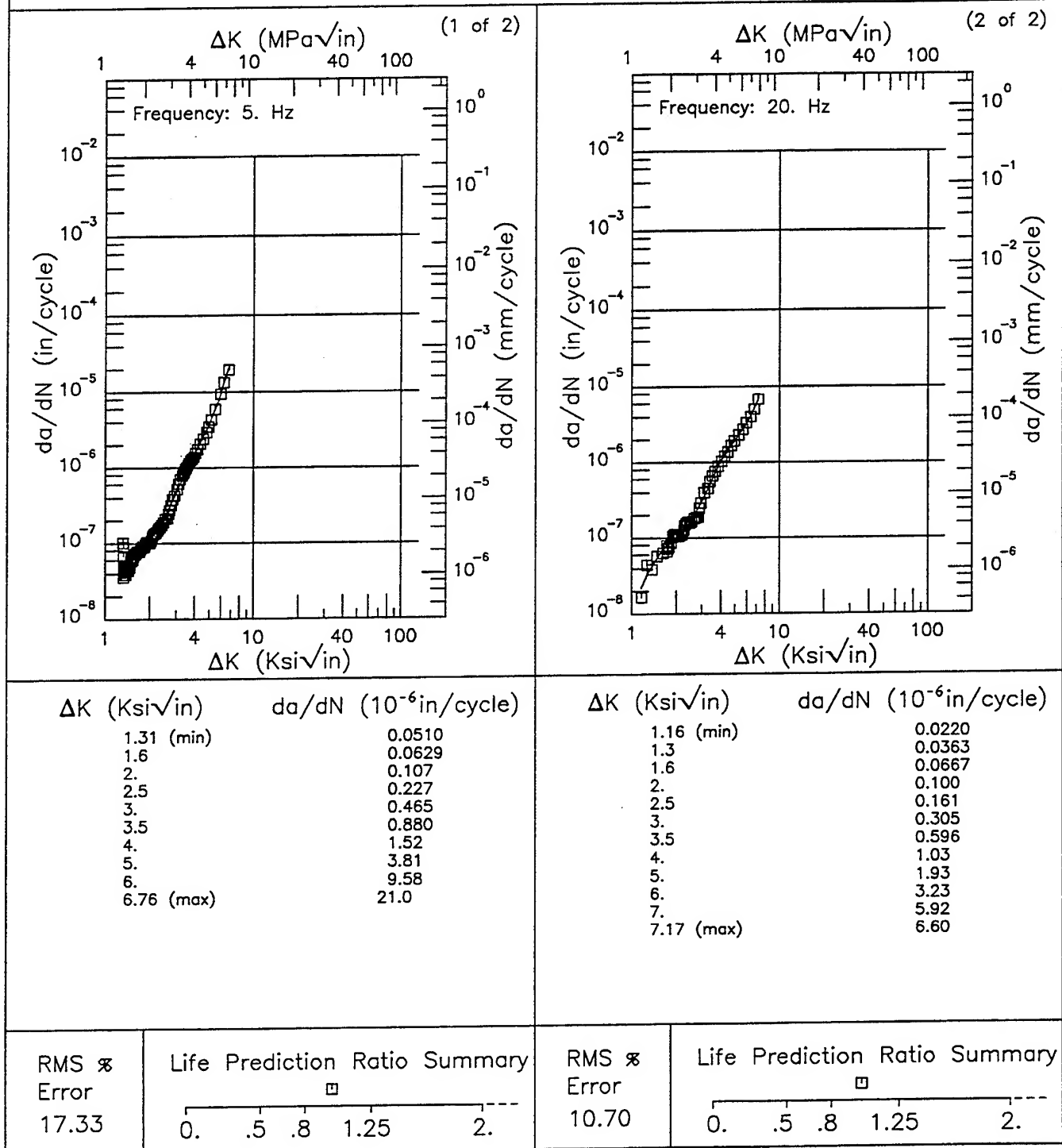
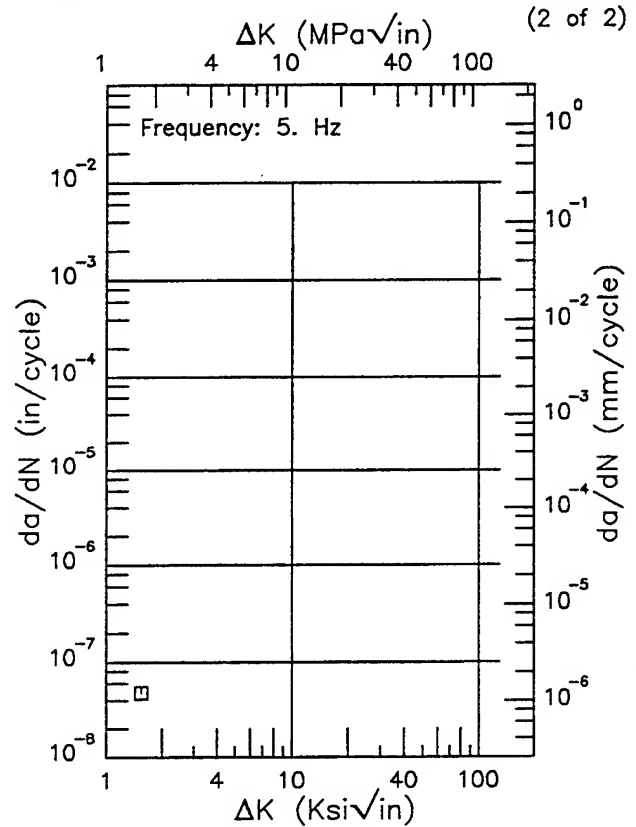
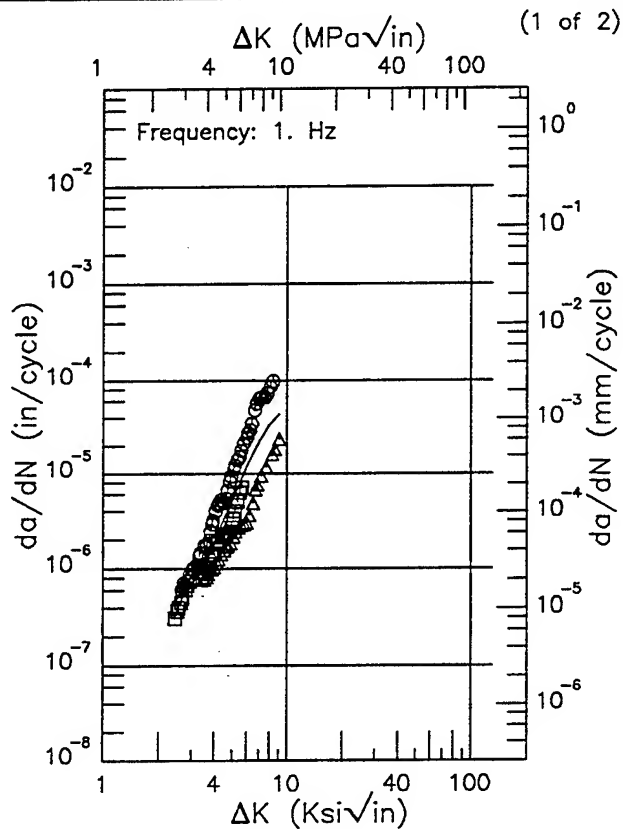


Figure 8.7.3.1.116

Condition/Ht: T76511
 Form: 0.75 - 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.8
 Environment: DIST WATER; RT

Yield Strength: 77 - 80.6 ksi
 Ult. Strength: 87 ksi
 Specimen Thk: 0.249 - 0.25 in.
 Specimen Width: 2 - 2.004 in.
 Ref: DA004;DA005

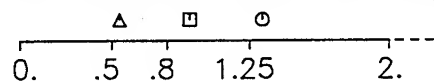


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.43 (min)	0.480
2.5	0.490
3.	0.677
3.5	1.10
4.	1.88
5.	5.16
6.	11.8
7.	21.8
8.	33.4
9.	43.4
9.06 (max)	43.8

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 70.91

Life Prediction Ratio Summary



RMS %
 Error

Life Prediction Ratio Summary

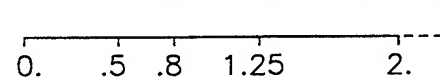
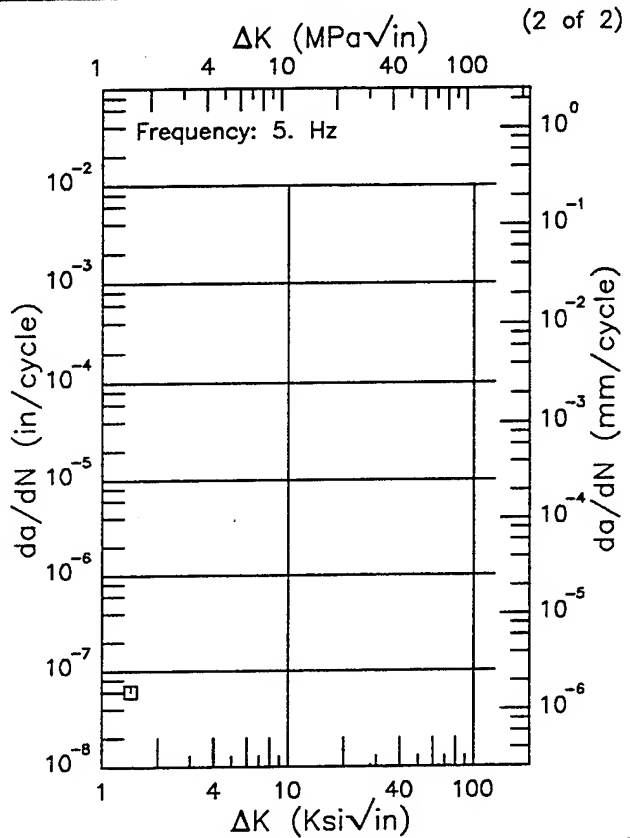
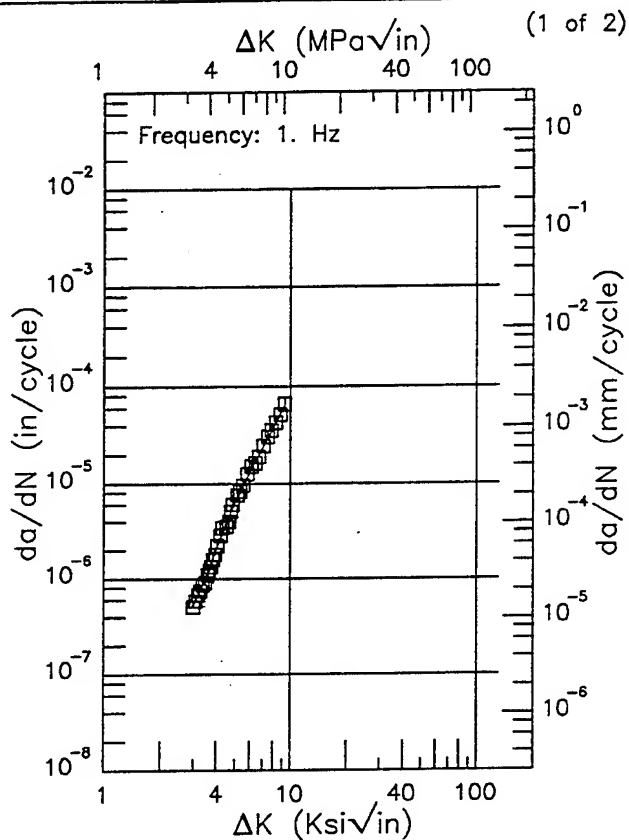


Figure 8.7.3.1.117

F 7050

Condition/Ht: T76511
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.8
 Environment: S.T.W.; RT

Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.251 in.
 Specimen Width: 2.003 in.
 Ref: DA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.98 (min)	0.524
3.	0.531
3.5	0.992
4.	2.04
5.	6.41
6.	13.2
7.	23.2
8.	37.5
9.	57.7
9.28 (max)	64.7

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS \times
 Error
 4.72

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \times
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

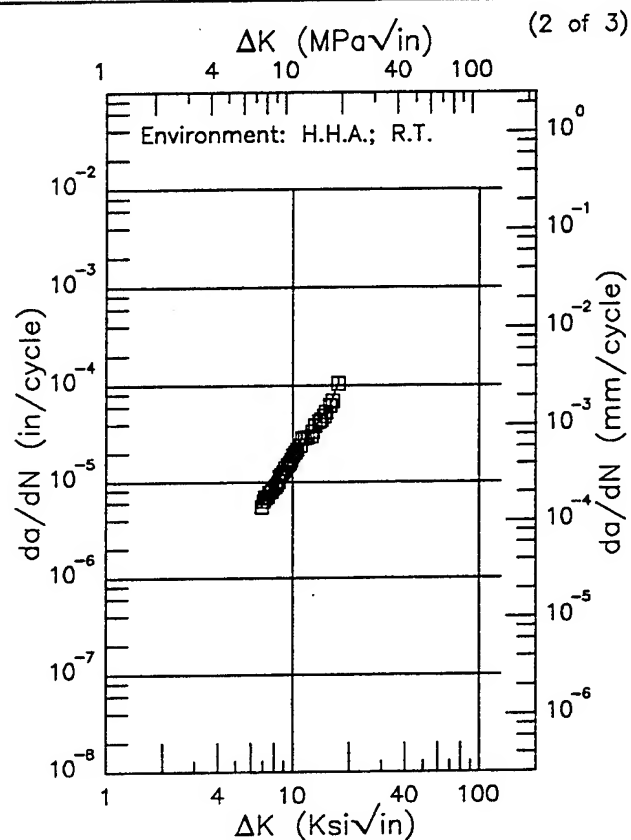
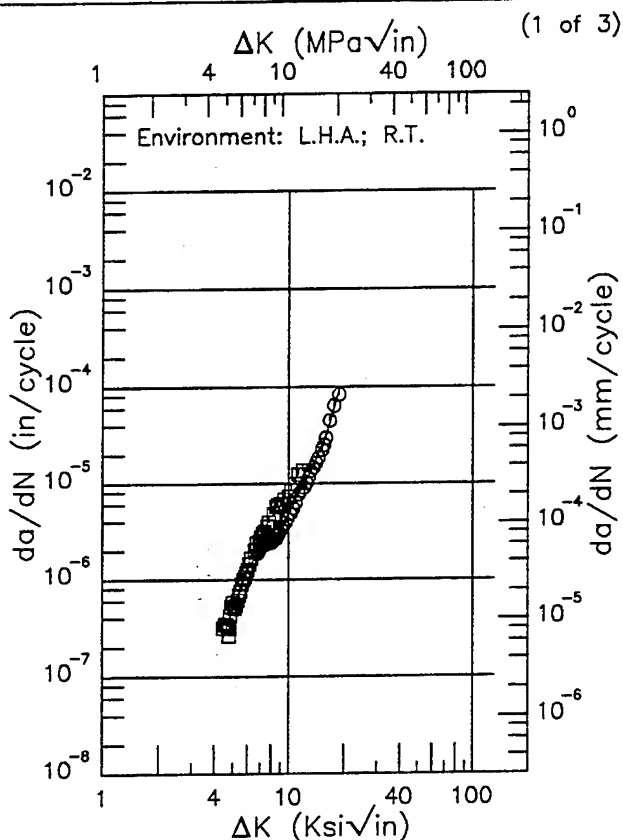
Figure 8.7.3.1.118

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7050

Condition/Ht: T76511
 Form: 1.16 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 74.4 ksi
 Ult. Strength: 82.5 ksi
 Specimen Thk: 0.999 - 1 in.
 Specimen Width: 3.801 in.
 Ref: AL004



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.43 (min)	0.240
5.	0.516
6.	1.24
7.	2.14
8.	3.15
9.	4.29
10.	5.63
13.	12.6
16.	32.9
18.66 (max)	92.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.84 (min)	6.00
7.	6.27
8.	8.87
9.	13.0
10.	18.4
13.	36.1
16.	65.4
17.37 (max)	103.

RMS %
 Error
 22.28

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 4.20

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.7.3.1.119

Condition/Ht: T76511
 Form: 1.16 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 18.3 Hz

Yield Strength: 74.4 ksi
 Ult. Strength: 82.5 ksi
 Specimen Thk: 0.999 - 1 in.
 Specimen Width: 3.801 in.
 Ref: AL004

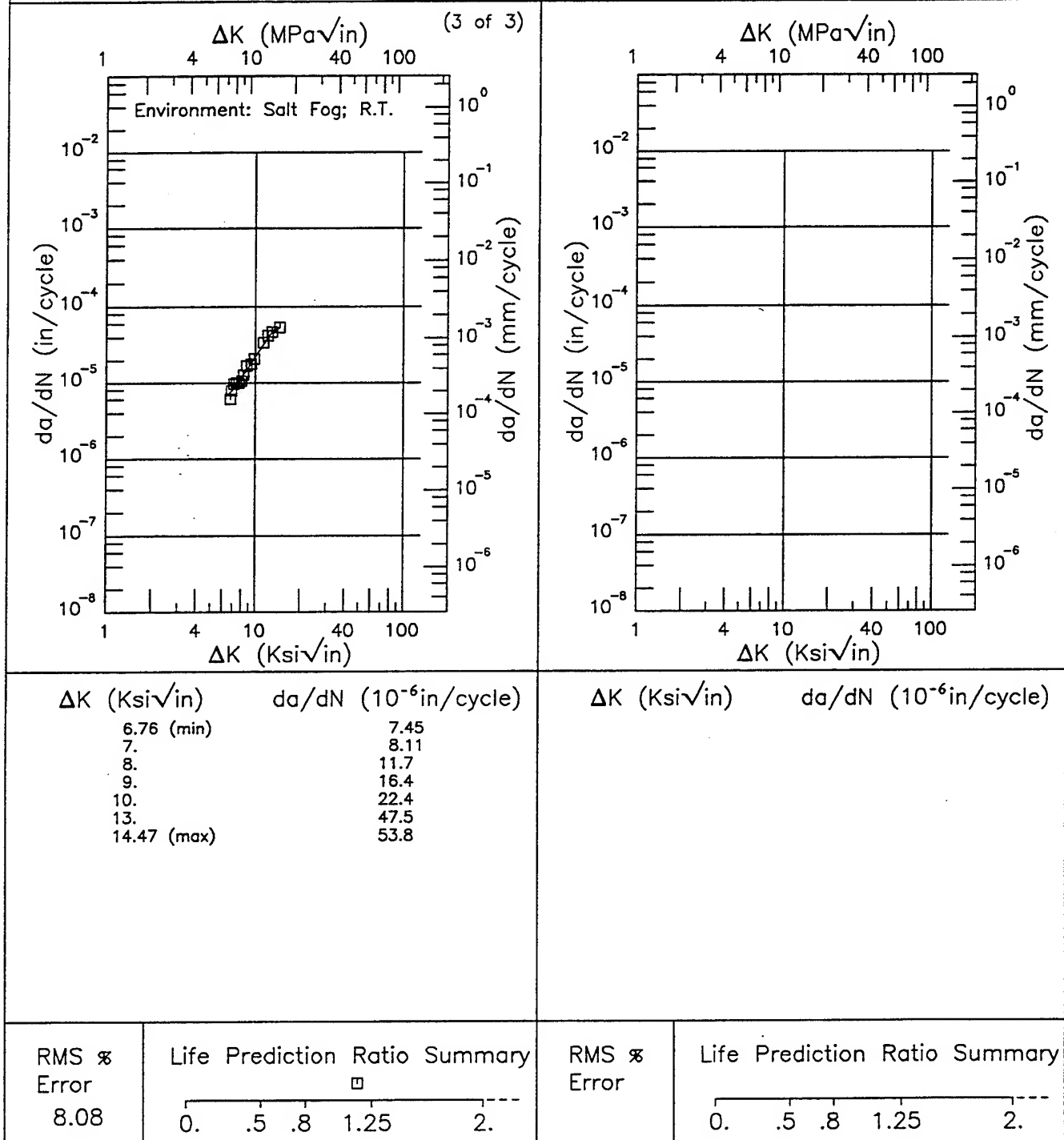


Figure 8.7.3.1.119 (Concluded)

F 7050

Condition/Ht: T76511

Form: 0.75 in. Extrusion

Specimen Type: CCP (max load specified)

Orientation: L-T

Stress Ratio: -1

Environment: LAB AIR; RT

Yield Strength: 80.6 ksi

Ult. Strength: 87 ksi

Specimen Thk: 0.199 in.

Specimen Width: 10.019 in.

Ref: DA004

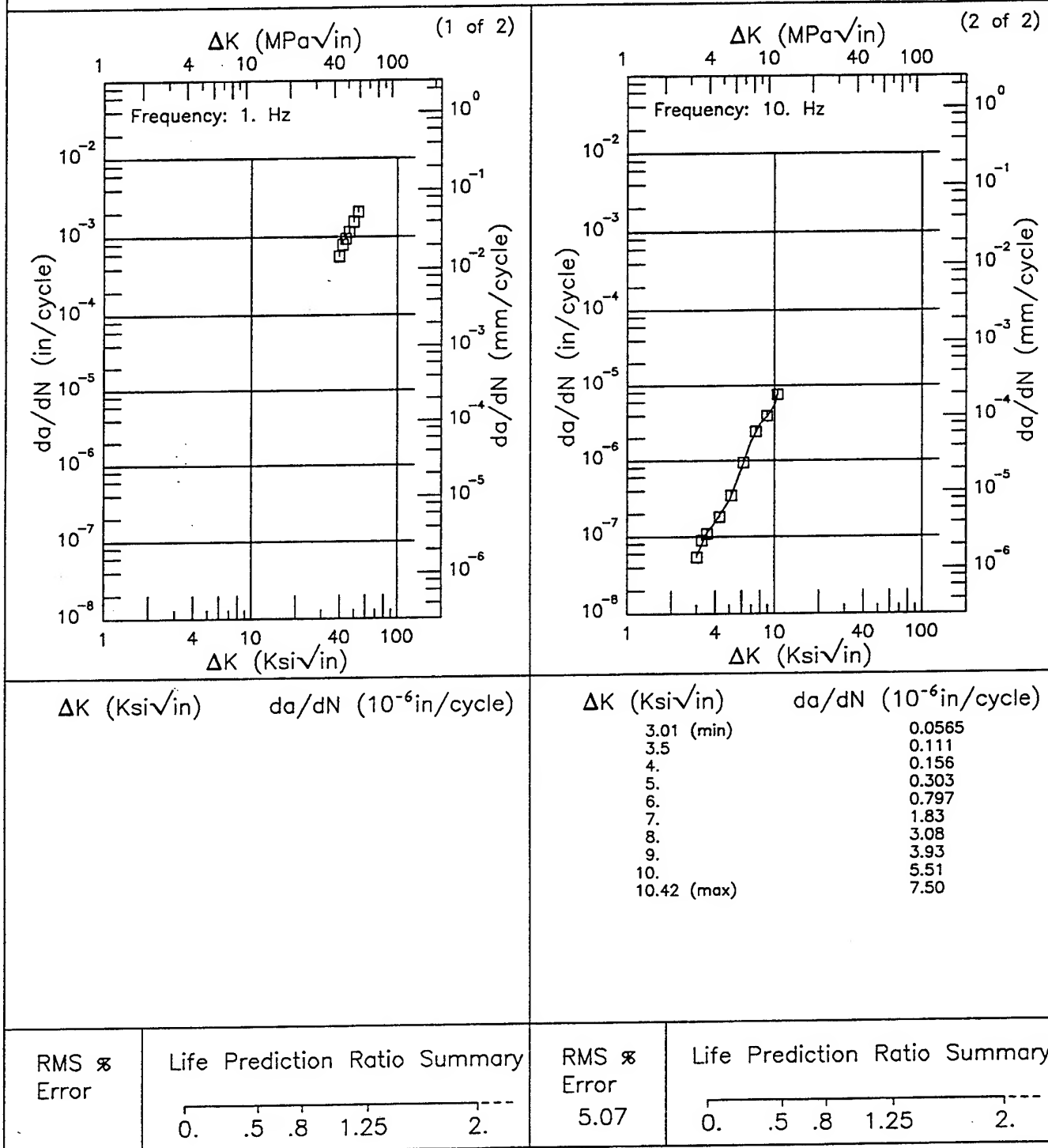


Figure 8.7.3.1.120

Condition/Ht: T7651X
 Form: 0.91 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: L.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.9 in.
 Specimen Width: 3.1 in.
 Ref: AL008

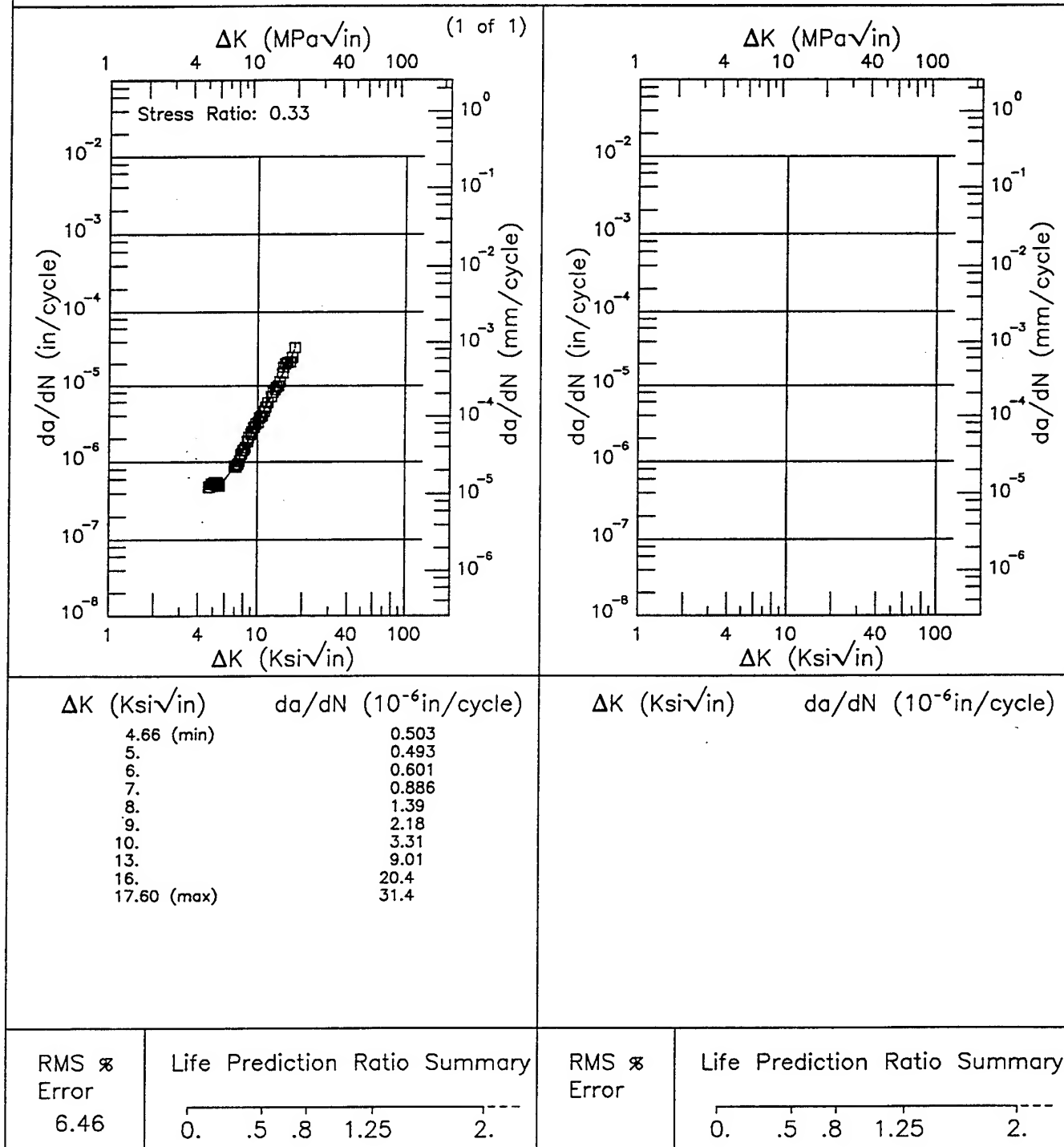
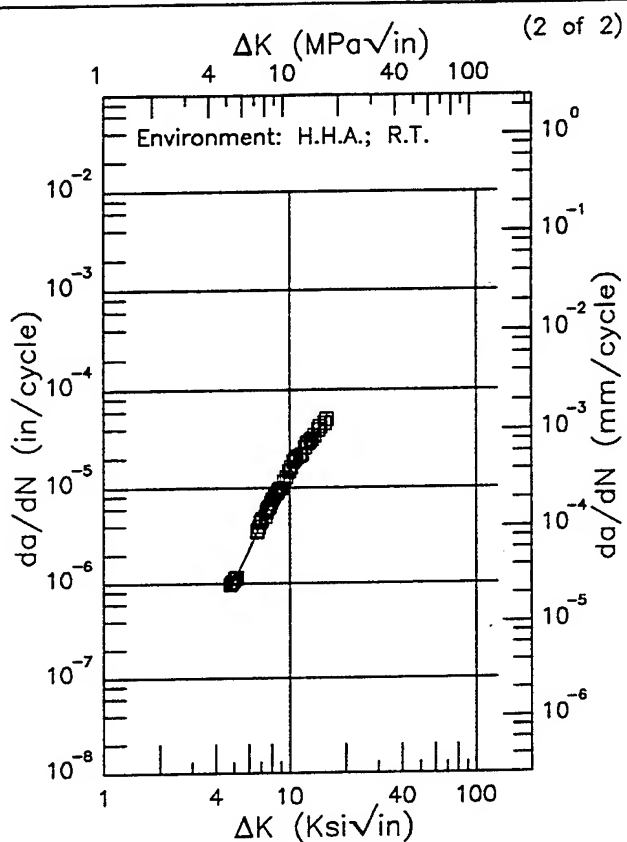
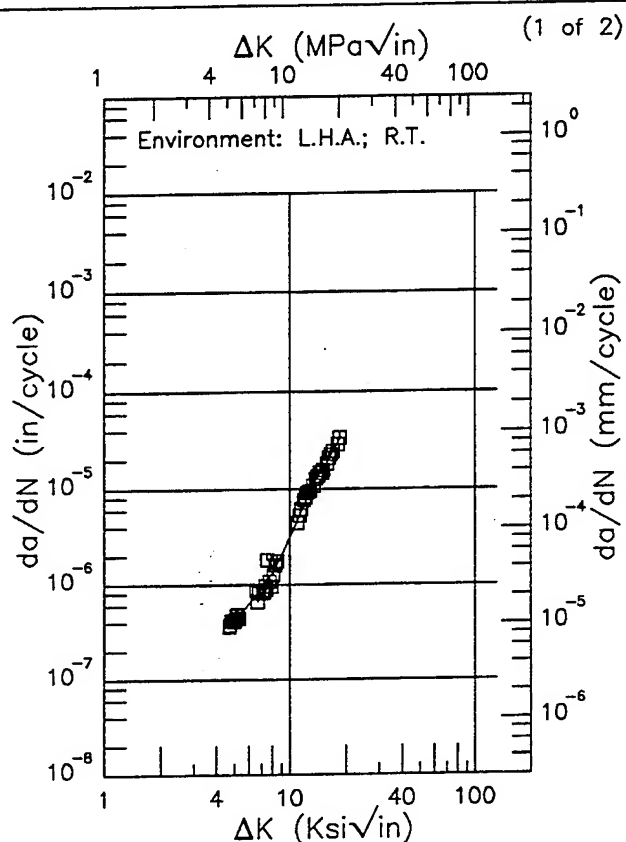


Figure 8.7.3.1.121

7050

Condition/Ht: T7651X
 Form: 0.91 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.9 in.
 Specimen Width: 3.805 in.
 Ref: AL008



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.68 (min)	0.356
5.	0.417
6.	0.628
7.	0.911
8.	1.34
9.	2.02
10.	3.15
13.	10.2
16.	19.8
18.35 (max)	33.0

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.78 (min)	0.906
5.	1.06
6.	2.21
7.	4.31
8.	7.24
9.	10.7
10.	14.8
13.	31.5
15.76 (max)	48.9

RMS %
 Error
 13.12

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 3.74

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.7.3.1.122

Condition/Ht: T7651X
 Form: 0.91 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 20 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.9 in.
 Specimen Width: 3.805 in.
 Ref: AL008

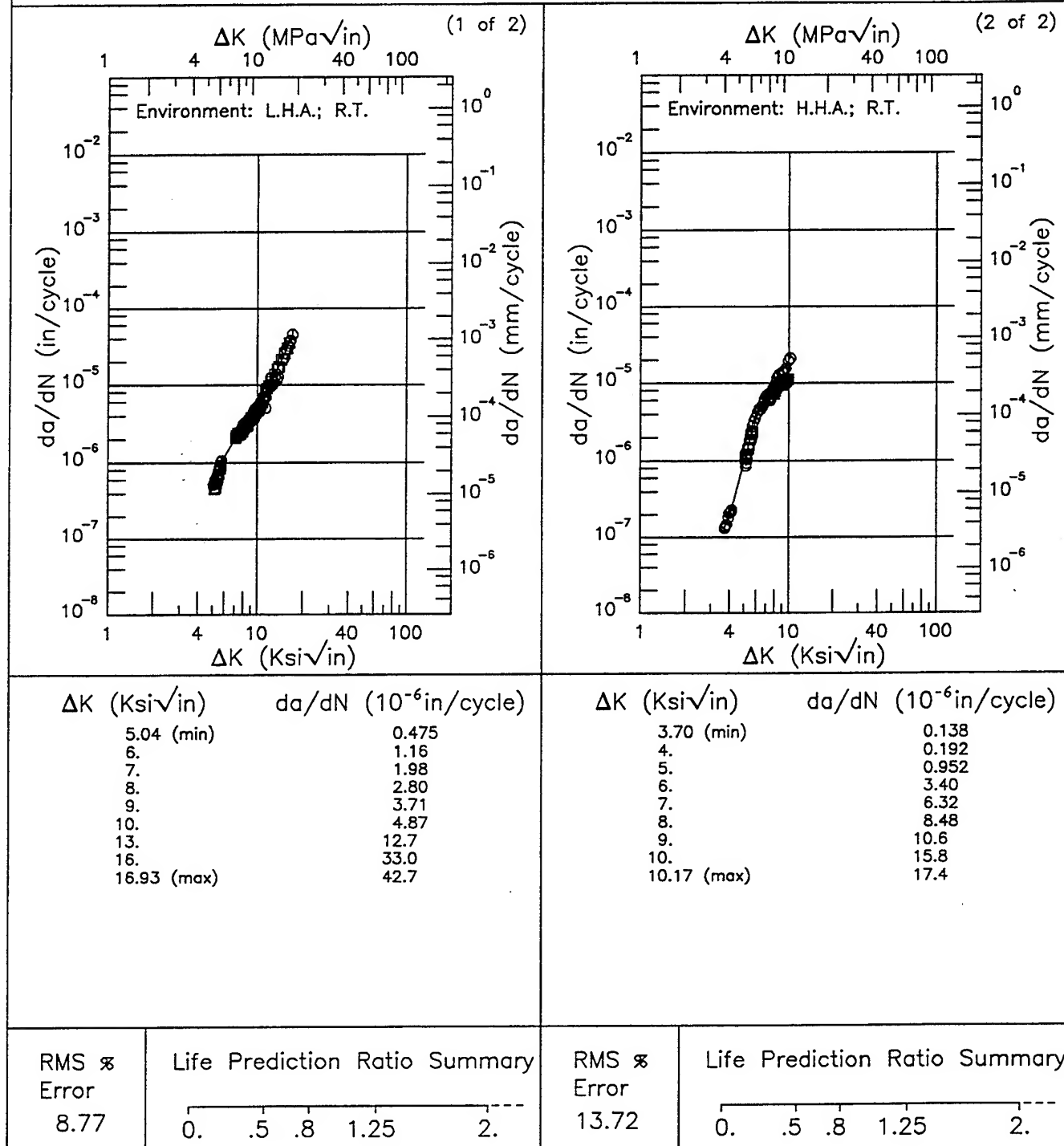


Figure 8.7.3.1.123

TABLE 8.7.3.3
K_{Isc} SUMMARY FOR ALUMINUM ALLOY 7050

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Crack (in)	K _Q (Ksi√in)	K _{Isc} (Ksi√in)	Test Time (min)	Test Date	Reference
						Design	Width (in)	Thick (in)						
T736	F	R.T.	L-T	61.4	3.5% NaCl	DCB	---	---	---	31.1	28.2*	---	1973	86212
			T-L	62.4	3.5% NaCl	DCB	---	---	---	28.1	24.5*	---	1973	86212
T73651	P	R.T.	T-L	66	S.T.W.	DCB	5.5	1	---	43	28	133680	1976	RI006
						DCB	5.5	1	---	43	27.5	133680	1976	RI006
				67.2	3.5% NaCl	TDCB	5	1.25	4	30	29.1	---	1972	84362
					Dist Water	TDCB	5	1.25	4	30	29.1	---	1972	84362
T7651	P	R.T.	L-T	73.8	JP-4 Fuel	WOL*	3.085	1.248	1.25	---	>22.4	95040	1977	MA005
						WOL*	3.078	1.253	1.25	---	>22.6	95040	1977	MA005
					Sim. Sea Water	WOL*	3.082	1.249	1.25	---	>22	95040	1977	MA005
						WOL*	3.079	1.251	1.25	---	>21.9	95040	1977	MA005
			T-L	77	JP-4 Fuel	WOL*	3.087	1.252	1.25	---	>22.5	95040	1977	MA005
						WOL*	3.087	1.251	1.25	---	>22.3	95040	1977	MA005
					Sim. Sea Water	WOL*	3.086	1.252	1.25	---	>22.3	95040	1977	MA005
						WOL*	3.086	1.252	1.25	---	>22.3	95040	1977	MA005

* specimen thickness does not meet minimum requirements of $2.5 \left(\frac{K_{Isc}}{\sigma_y} \right)^2$

* asterisk in specimen design column indicates that specimens are side-grooved

TABLE 8.8.1.2.1

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T76	SHEET	0.33	13.3			13.9		
								100.0

TABLE 8.8.1.2.2

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.33	13.3						

TABLE 8.8.1.2.3

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: L-T**ENVIRONMENT: Salt Fog**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (K_{SI}/in)				
				2.5	5.0	10.0	20.0	50.0
T76	SHEET	0.33	13.3				28.49	
								100.0

TABLE 8.8.1.2.4

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L **ENVIRONMENT: H.H.A.**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (K_{SI}/in)				
				2.5	5.0	10.0	20.0	50.0
T76	SHEET	0.	13.3			7.87		
		0.33	13.3		1.54	14.23		
		0.33	13.3			12.91		
		0.67	13.3		2.48	27.35		
								100.0

TABLE 8.8.1.2.5

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.	13.3			4.89			
		0.33	13.3			6.93			
		0.33	13.3			6.97			
		0.67	13.3		1.71	22.36			

TABLE 8.8.1.2.6

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7050 (ALCLAD) AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: Salt Fog

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.	13.3			11.61			
		0.33	13.3			23.39			
		0.33	13.3			19.52			
		0.67	13.3		4.94				

TABLE 8.8.2.2

1 of 1

ALUMINUM 7050 (ALCLAD) K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T76	Sheet	0.06	R.T.	L-T	67.2	8.130	0.062	2.670	4.090	---	37.50	82.50*	---	---	113.50*	---	---	1982	LG002
		0.06			67.2	8.130	0.062	2.670	3.920	---	37.40	82.20*			108.70*			1982	LG002
		0.06			67.2	8.130	0.063	2.670	3.960	---	37.90	83.40*			101.90*			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	8.120	0.087	2.700	3.860	---	35.10	77.60	76.4	1.1	100.80*	---	---	1982	LG002
		0.09			66.9	8.120	0.088	2.680	3.860	---	34.30	75.40			98.50*			1982	LG002
		0.09			66.9	8.120	0.088	2.660	4.020	---	34.80	76.30			103.70*			1982	LG002
T76	Sheet	0.06	R.T.	L-T	67.2	12.030	0.062	3.990	5.410	---	33.70	90.70	93.2	3.5	112.70*	---	---	1982	LG002
		0.06			67.2	12.050	0.062	4.030	5.640	---	35.30	95.70			122.10*			1982	LG002
		0.09			66.9	12.100	0.087	3.990	5.590	---	31.70	85.30			108.80*			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	12.110	0.088	4.030	6.090	---	31.60	85.60	84.9	0.9	116.80*	---	---	1982	LG002
		0.09			66.9	12.120	0.088	3.980	5.850	---	31.30	83.90			111.50*			1982	LG002
		0.06			67.2	20.020	0.062	6.650	8.070	---	27.40	95.00			108.70			1982	LG002
T76	Sheet	0.06	R.T.	L-T	67.2	20.070	0.063	6.560	8.730	---	28.40	97.60	96.3	1.8	119.40	114.1	7.6	1982	LG002
		0.06			67.2	20.140	0.088	6.600	10.030	---	28.80	99.50			136.00*			1982	LG002
		0.09			66.9	20.170	0.088	6.650	9.760	---	30.50	105.70			140.40*			1982	LG002
T76	Sheet	0.09	R.T.	L-T	66.9	20.170	0.088	6.650	9.760	---	30.50	105.70	102.6	4.4	140.40*	---	---	1982	LG002
		0.09			66.9	20.170	0.088	6.650	9.760	---	30.50	105.70			140.40*			1982	LG002
		0.09			66.9	20.170	0.088	6.650	9.760	---	30.50	105.70			140.40*			1982	LG002

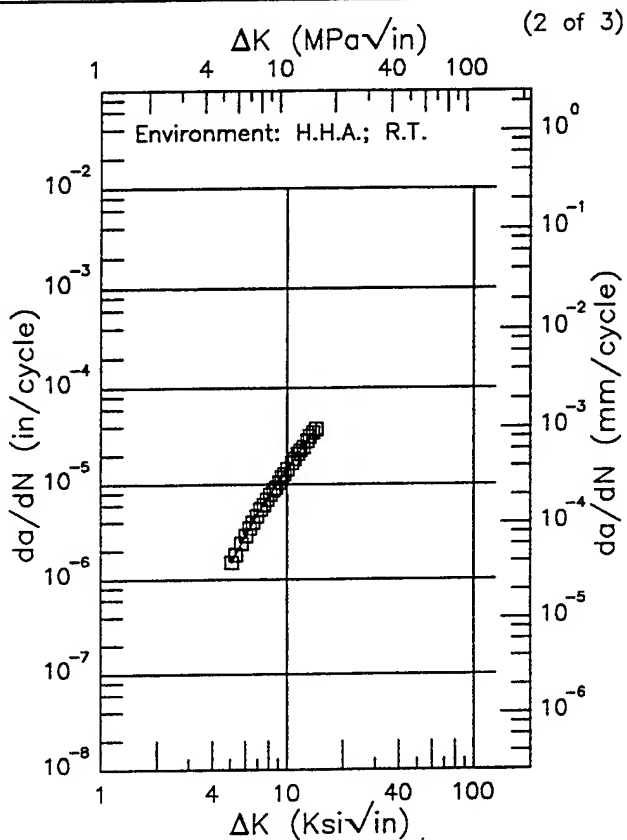
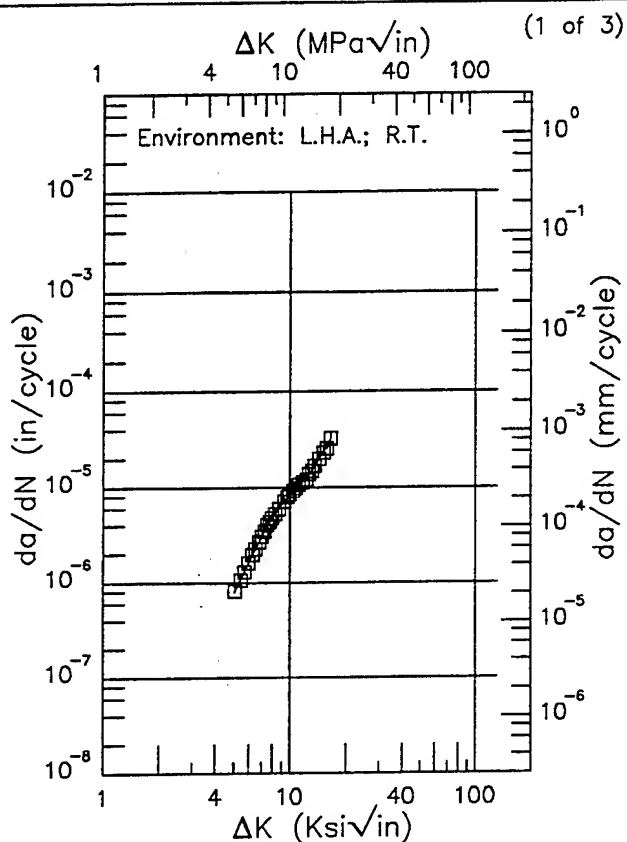
* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

7050 (ALCLAD)

E

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 67.3 ksi
 Ult. Strength: 75.2 ksi
 Specimen Thk: 0.121 in.
 Specimen Width: 4.001 in.
 Ref: AL012



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.07 (min)	0.792
6.	1.62
7.	3.00
8.	4.76
9.	6.58
10.	8.39
13.	14.7
16.	28.5
16.45 (max)	31.6

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.08 (min)	1.51
6.	2.85
7.	4.87
8.	7.33
9.	10.2
10.	13.9
13.	29.5
14.28 (max)	37.7

RMS \times
 Error
 2.37

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \times
 Error
 1.25

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.8.3.1.1

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 67.3 ksi
 Ult. Strength: 75.2 ksi
 Specimen Thk: 0.121 in.
 Specimen Width: 4.001 in.
 Ref: AL012

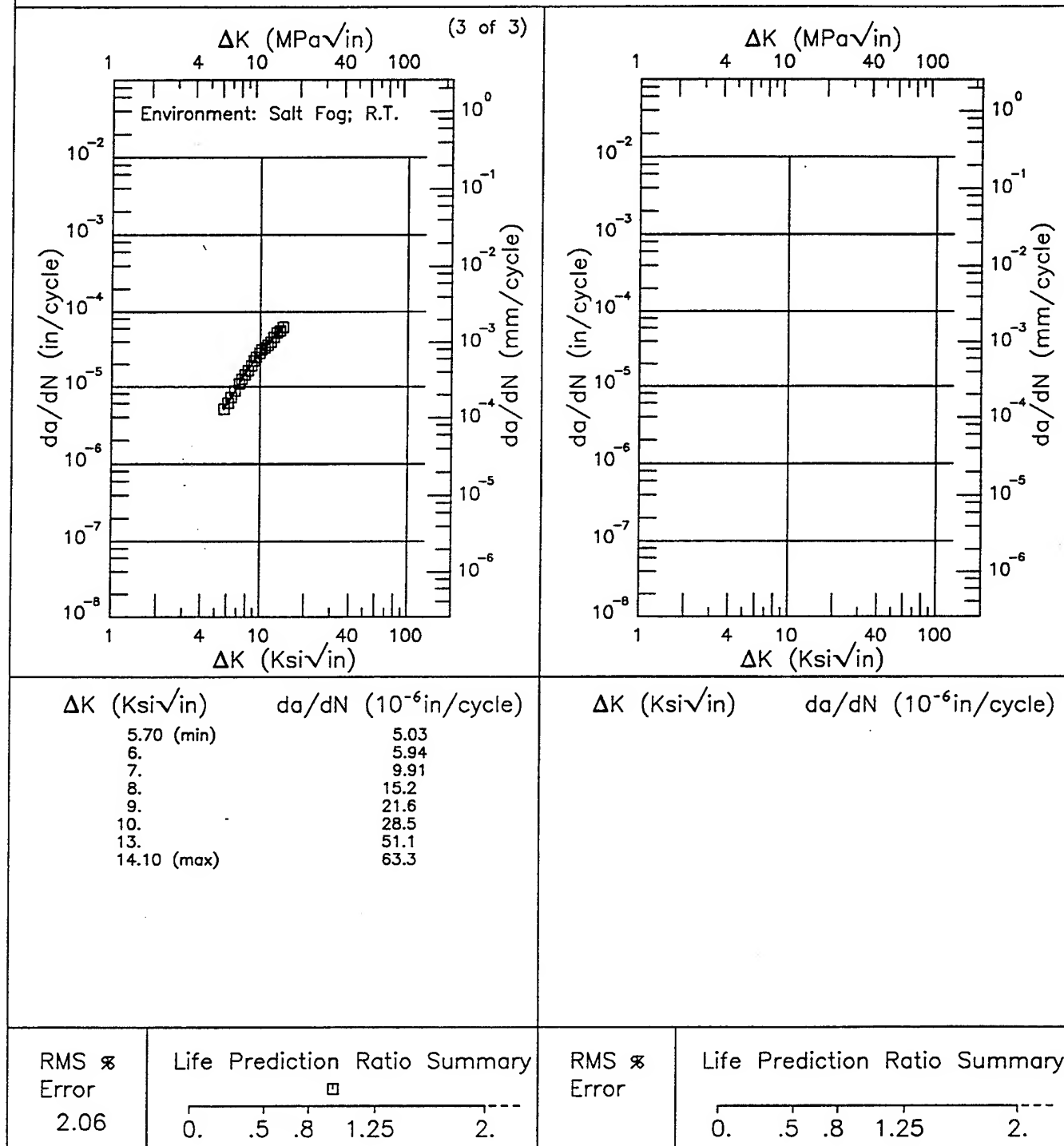
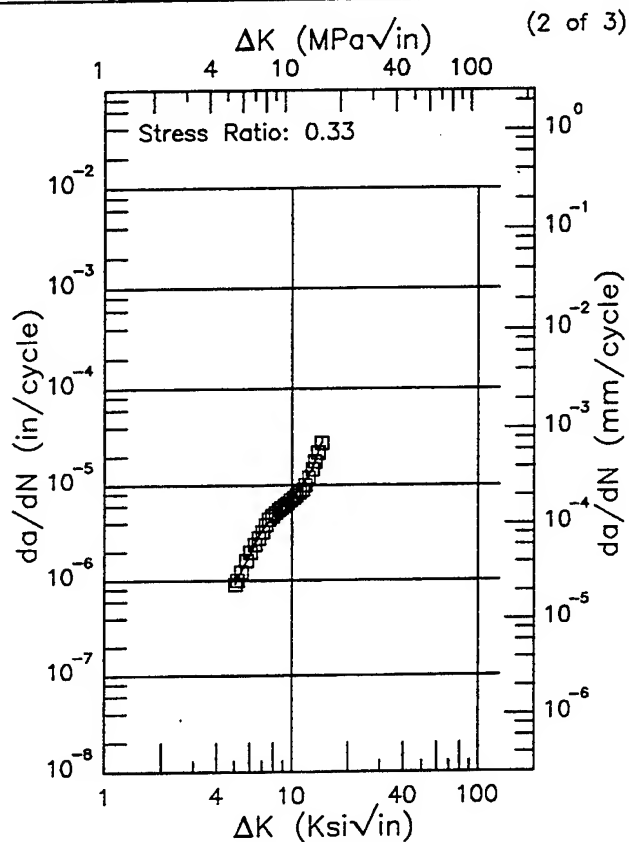
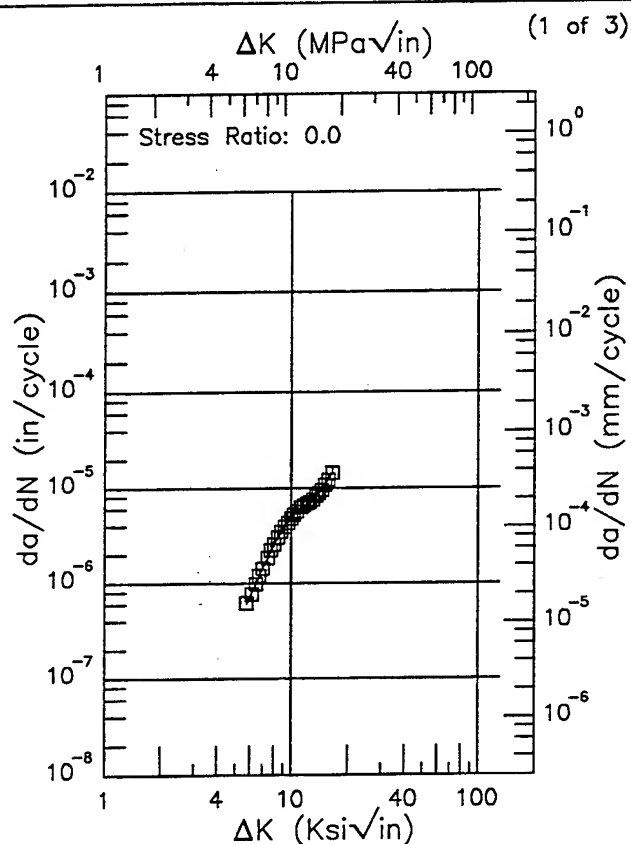


Figure 8.8.3.1.1 (Concluded)

R 7050 (ALCLAD)

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: L.H.A.; RT

Yield Strength: 67.7 ksi
 Ult. Strength: 76.2 ksi
 Specimen Thk: 0.121 - 0.122 in.
 Specimen Width: 4.001 - 4.002 in.
 Ref: AL012



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.75 (min)	0.599
6.	0.718
7.	1.42
8.	2.47
9.	3.70
10.	4.89
13.	7.59
16.	13.0
16.45 (max)	14.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.02 (min)	0.908
6.	1.86
7.	3.30
8.	4.82
9.	5.94
10.	6.93
13.	15.4
14.38 (max)	28.0

RMS %
 Error
 2.77

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 4.79

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.8.3.1.2

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: L.H.A.; RT

Yield Strength: 67.7 ksi
 Ult. Strength: 76.2 ksi
 Specimen Thk: 0.121 - 0.122 in.
 Specimen Width: 4.001 - 4.002 in.
 Ref: AL012

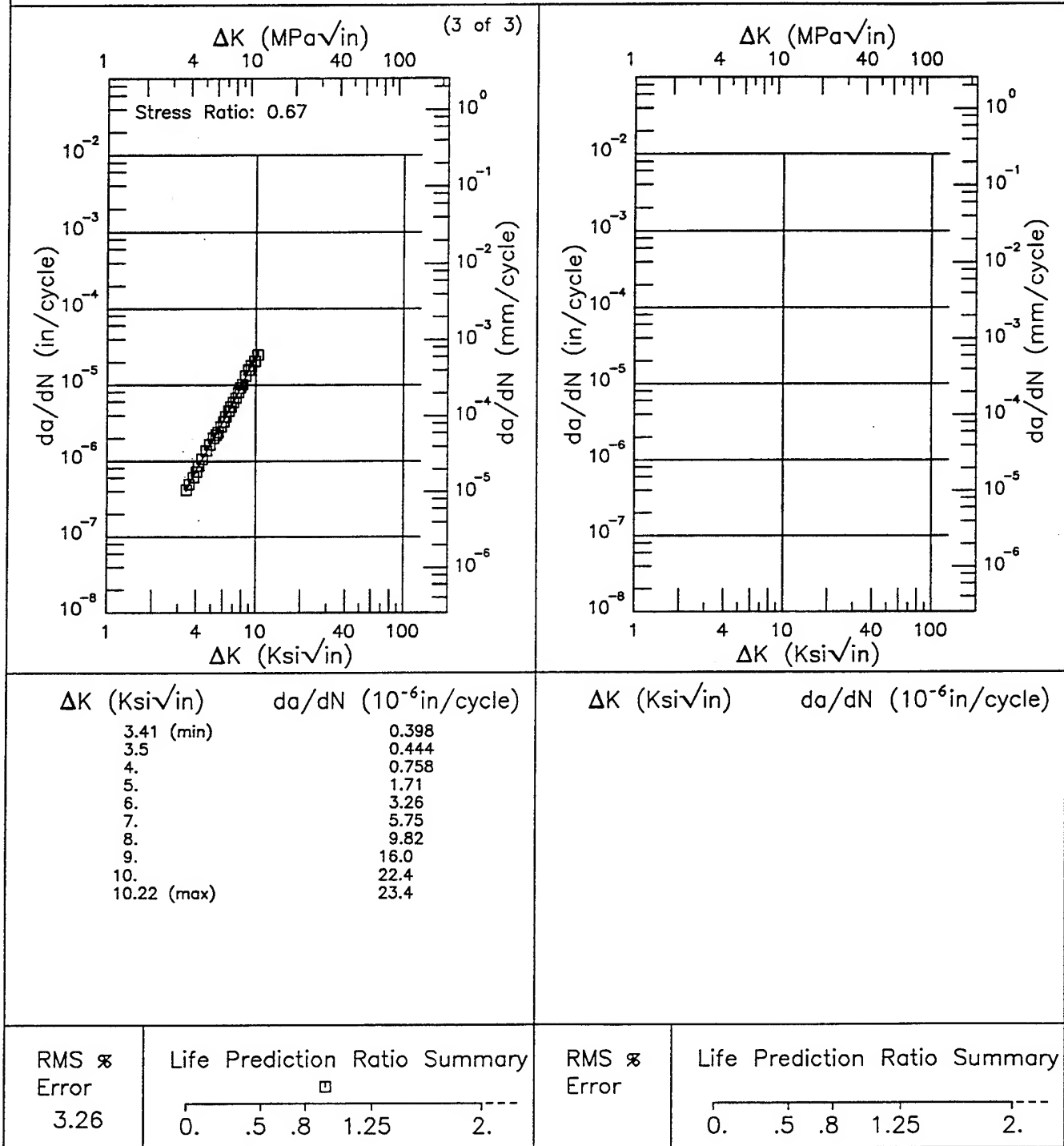


Figure 8.8.3.1.2 (Concluded)

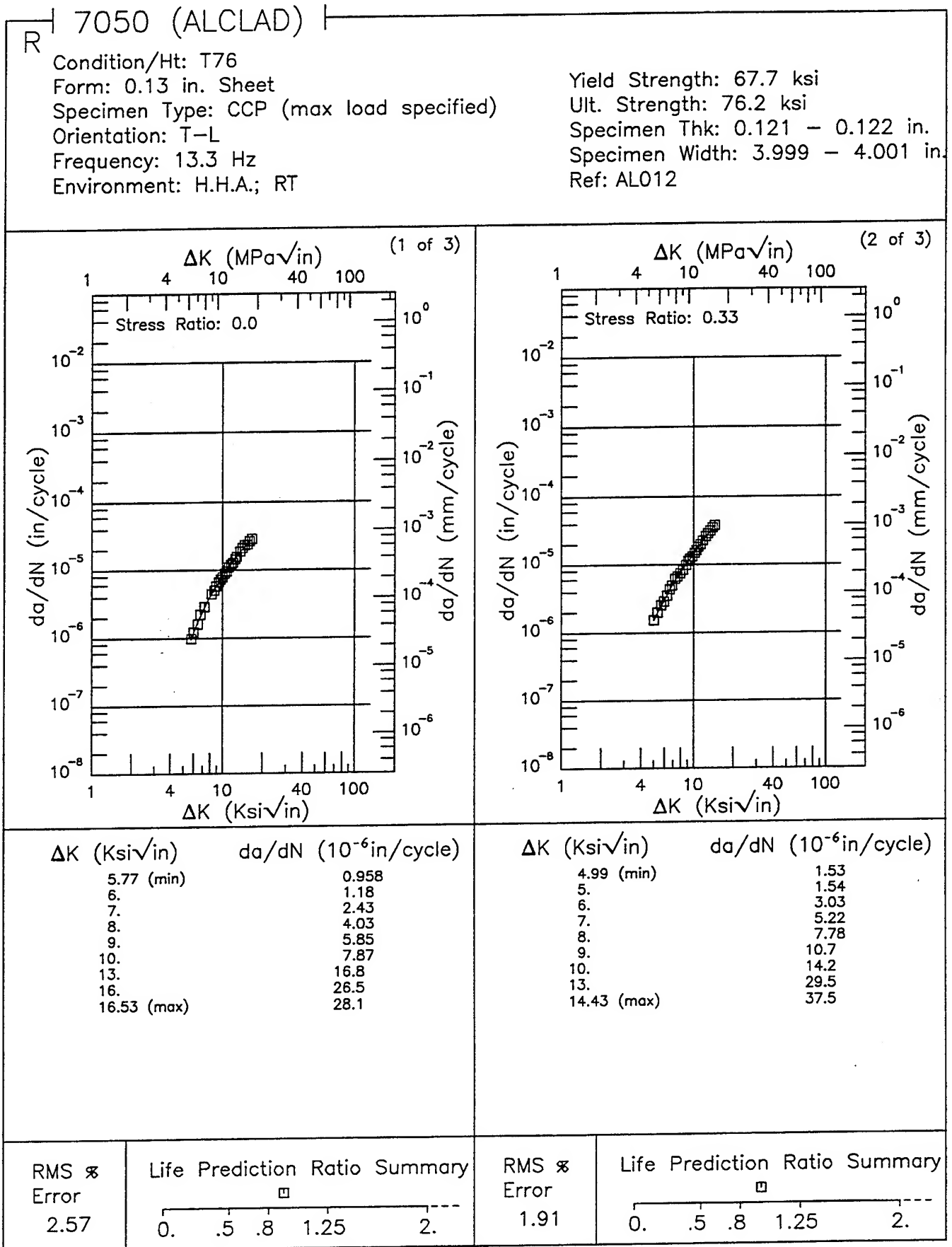


Figure 8.8.3.1.3

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: H.H.A.; RT

Yield Strength: 67.7 ksi
 Ult. Strength: 76.2 ksi
 Specimen Thk: 0.121 - 0.122 in.
 Specimen Width: 3.999 - 4.001 in.
 Ref: AL012

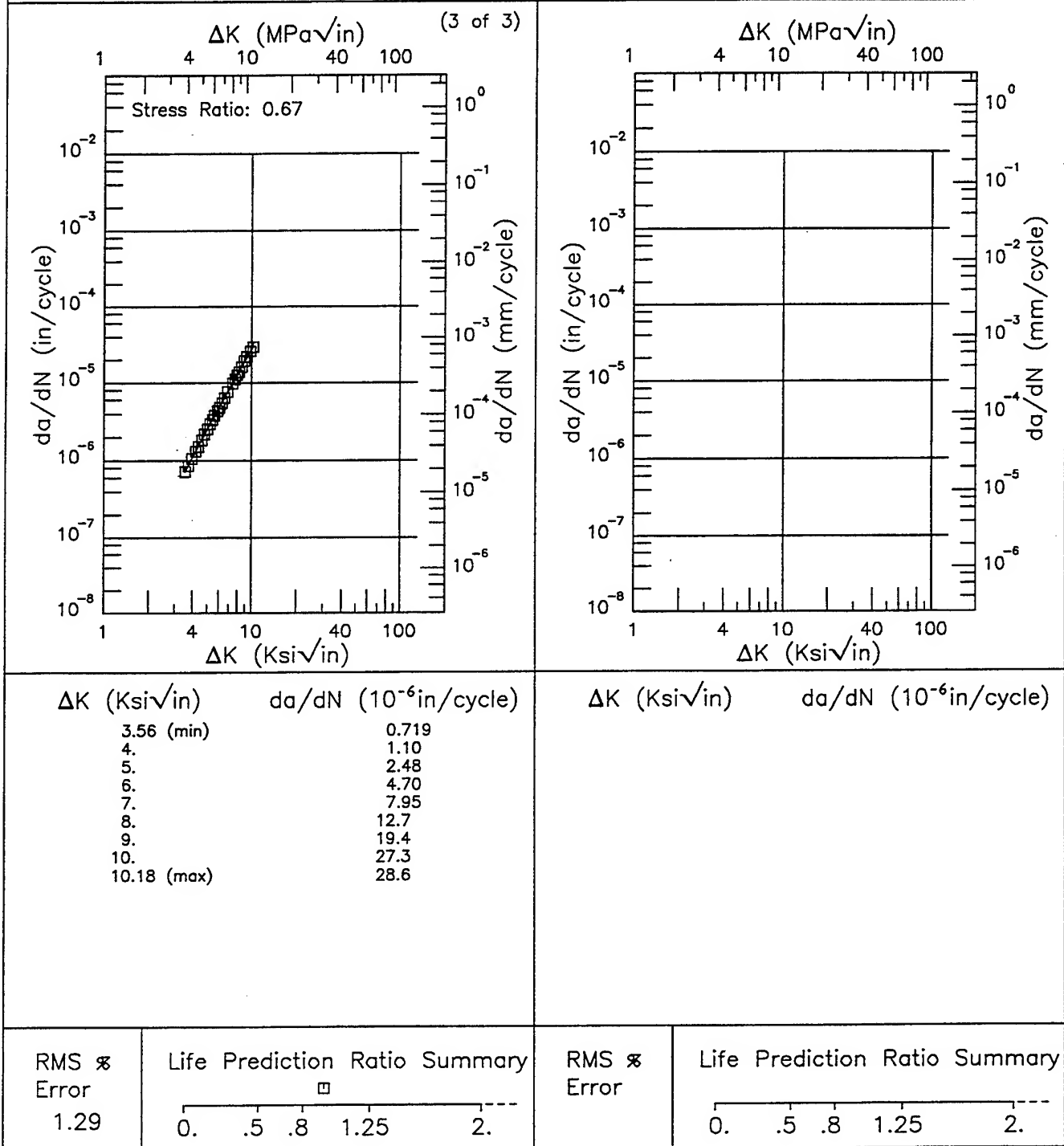


Figure 8.8.3.1.3 (Concluded)

R 7050 (ALCLAD)

Condition/Ht: T76

Form: 0.13 in. Sheet

Specimen Type: CCP (max load specified)

Orientation: T-L

Frequency: 13.3 Hz

Environment: SALT FOG; RT

Yield Strength: 67.7 ksi

Ult. Strength: 76.2 ksi

Specimen Thk: 0.121 in.

Specimen Width: 4.001 in.

Ref: AL012

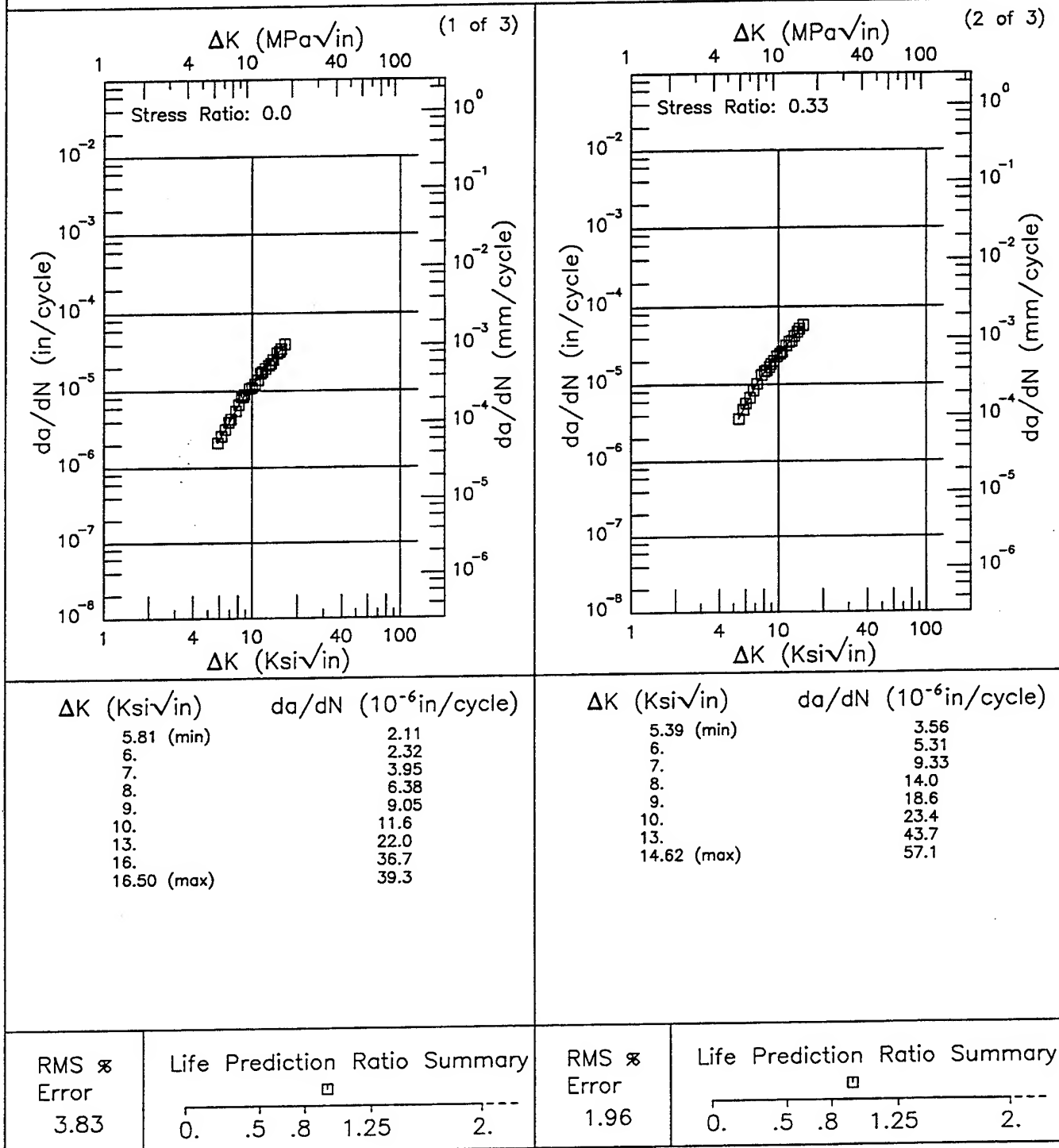


Figure 8.8.3.1.4

Condition/Ht: T76
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: SALT FOG; RT

Yield Strength: 67.7 ksi
 Ult. Strength: 76.2 ksi
 Specimen Thk: 0.121 in.
 Specimen Width: 4.001 in.
 Ref: AL012

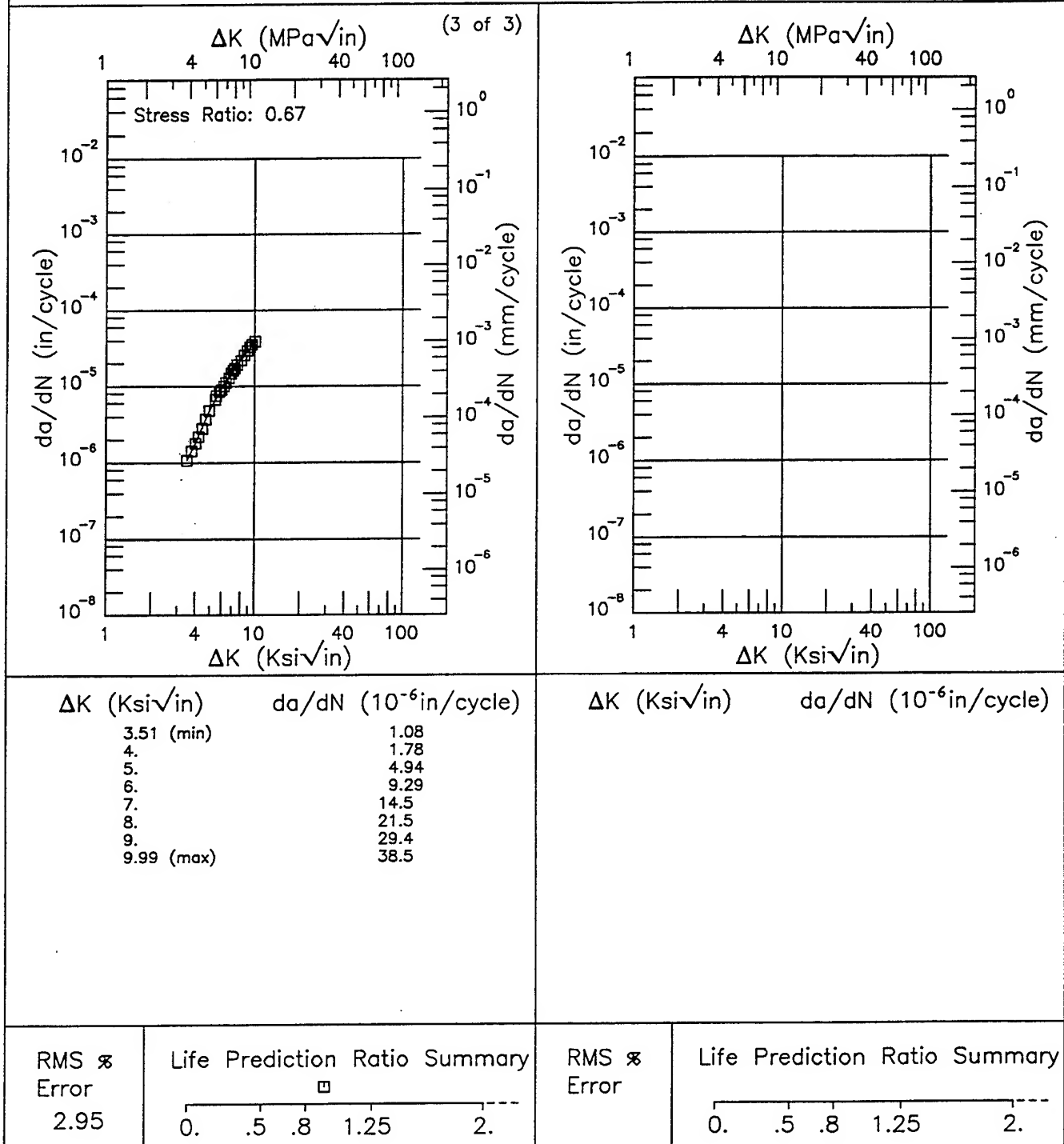
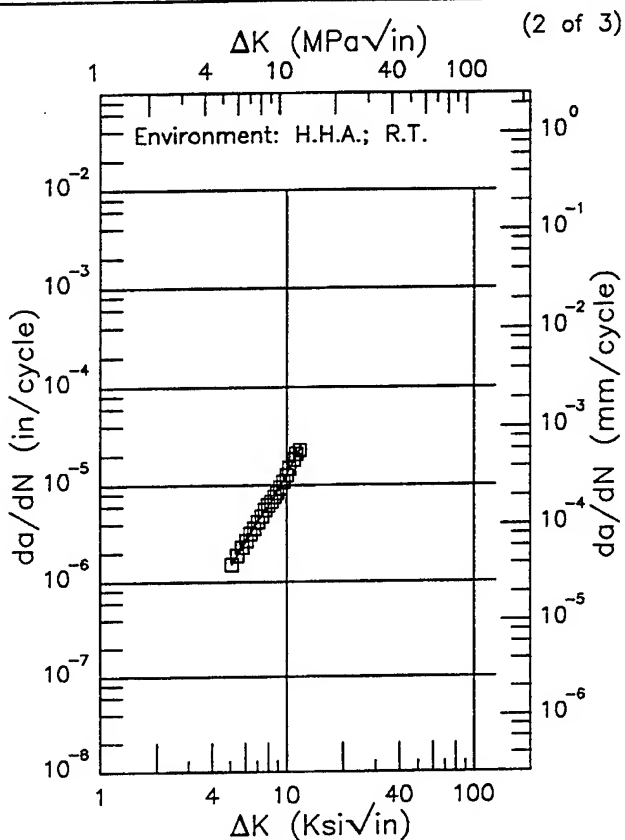
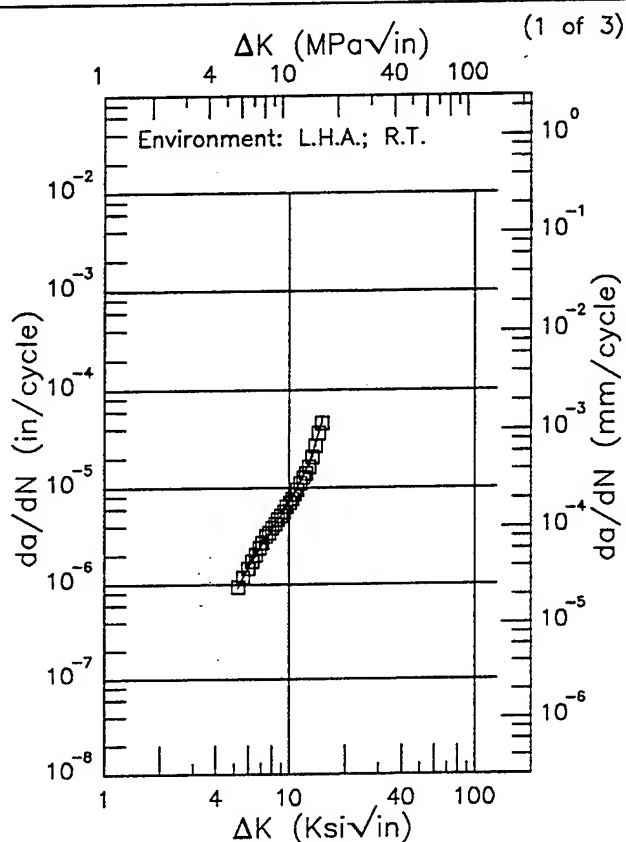


Figure 8.8.3.1.4 (Concluded)

7050 (ALCLAD)

Condition/Ht: T76
 Form: 0.03 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 65.1 ksi
 Ult. Strength: 74.2 ksi
 Specimen Thk: 0.024 in.
 Specimen Width: 4 in.
 Ref: AL012



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.26 (min)	0.916
6.	1.50
7.	2.52
8.	3.78
9.	5.22
10.	6.97
13.	18.5
14.99 (max)	48.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.07 (min)	1.52
6.	2.56
7.	4.17
8.	6.11
9.	8.70
10.	12.9
11.71 (max)	23.0

RMS \times
 Error
 3.29

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \times
 Error
 2.16

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.8.3.1.5

Condition/Ht: T76
 Form: 0.03 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Stress Ratio: 0.33
 Frequency: 13.3 Hz

Yield Strength: 65.1 ksi
 Ult. Strength: 74.2 ksi
 Specimen Thk: 0.024 in.
 Specimen Width: 4 in.
 Ref: AL012

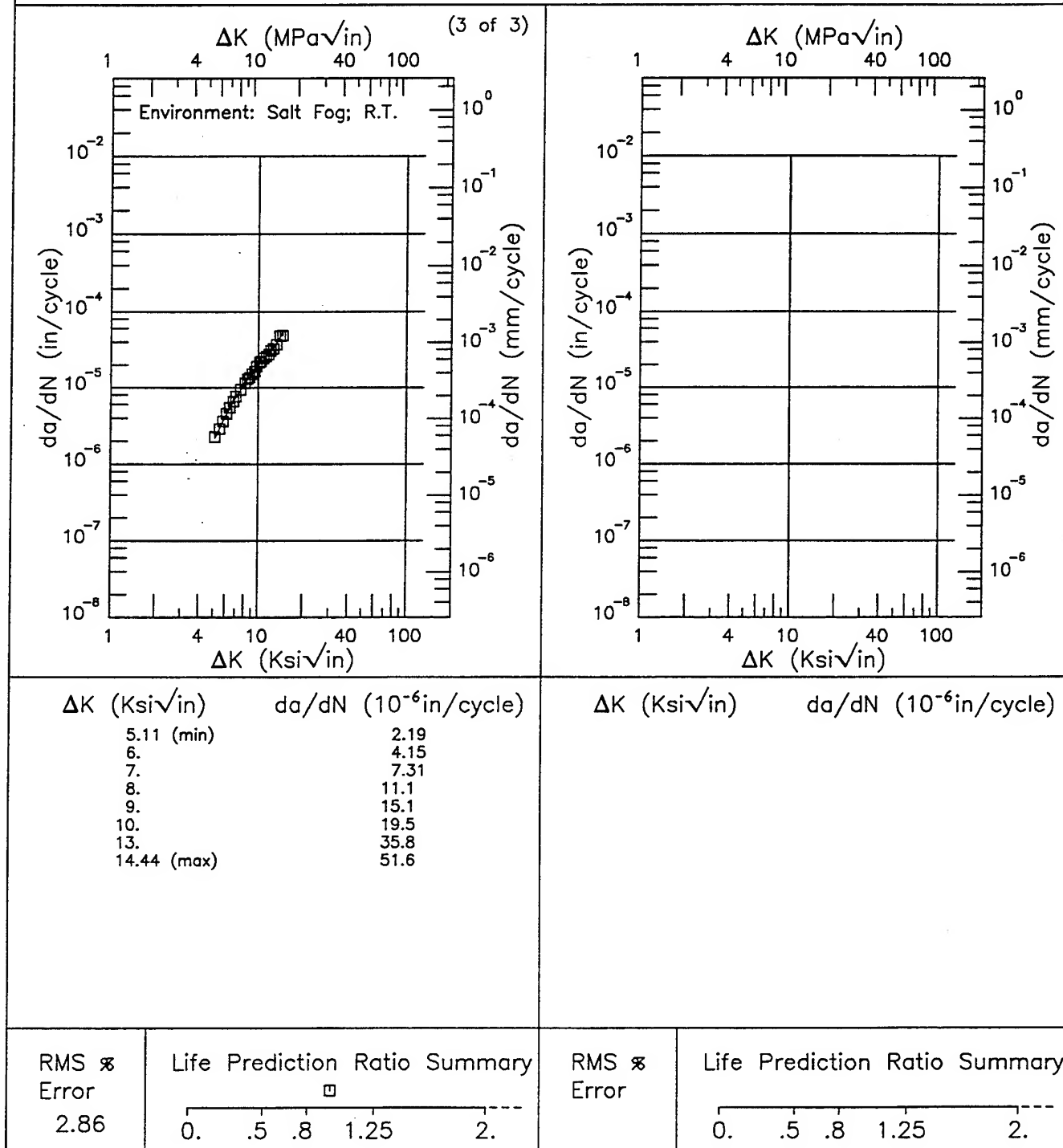


Figure 8.8.3.1.5 (Concluded)

TABLE 8.9.1.1
MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7075 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} (ksi√in)										
		Specimen Orientation									S-L	
		L-T			T-L			n	Mean K_{Ic}	Std Dev		n
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n					
Plate	T651	26.5	2.	63	22.5	2.	75	17.6	2.7	11		
	T7351	29.4	2.2	47	26.2	3.2	36	18.5	0.4	7		
	T7651	28.5	1.5	25	23.1	2.	45	17.8	1.5	16		
Forging	T6	24.3	0.1	2	20.9	1.7	2	16.8	0.4	4		
	T73	---	---	---	---	---	---	19.1	0.5	4		
	T7352	33.6	3.1	14	26.6	2.8	13	21.7	3.2	8		
Extrusion	T73652	35.	1.8	3	26.6	2.7	3	---	---	---		
	T6	---	---	---	19.9	0.2	3	18.5	0.2	3		
	T651	31.1	0.5	4	20.2	0.2	5	---	---	---		
	T6510	27.5	2.1	12	23.3	1.6	16	20.	1.3	3		
	T6511	27.9	1.4	2	26.9	1.8	4	---	---	---		
	T73510	---	---	---	24.6	2.3	9	20.3	0.8	2		
	T73511	39.6	3.1	4	26.8	1.1	3	21.9	1.1	2		
	T76511	35.7	4.4	6	23.6	2.8	4	---	---	---		

TABLE 8.9.1.1 (CONCLUDED)

MEAN PLANE STRAIN FRACTURE TOUGHNESS
FOR ALUMINUM 7000/8000 SERIES ALLOY 7075 AT ROOM TEMPERATURE

Product Form	Condition/Heat Treatment	K_{Ic} (ksi \sqrt{in})									
		Specimen Orientation									
		L-T			T-L			S-L			
		Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	Mean K_{Ic}	Std Dev	n	
Forged Bar	T6510	29.2	3.4	13	21.4	1.8	13	18.7	0.9	7	
		43	1.7	2	30.	0.1	2	---	---	---	
Extruded Bar	T73511-HIGH PURITY	27.3	0.2	2	21.7	1.7	2	---	---	---	
		30.6	0.2	2	21.9	0.3	2	---	---	---	
Rolled Bar	T73511-MEDIUM PURITY	34.1	0.5	2	---	---	---	---	---	---	

7075

TABLE 8.9.1.2.1

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	PLATE	-1	0.1			22.33	144.31		
		0.	0.1			24.02	160.69		
		0.	1			29.52	185.53		
		0.	10			22.11	106.98		
T651	PLATE	0.5	0.1		5.97	42.83	546.58		
		0.02	10			13.82	101.16		
T7351	PLATE	0.02	1				70.26		

TABLE 8.9.1.2.2

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Distilled Water

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.02	10			10.11	47.9		
T7351	PLATE	0.02	0.1				46.29		
		0.02	1				37.67		

TABLE 8.9.1.2.3

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T**ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.02	1				30.34		
T73	FORGED BAR	0.3	4			2.05	42.04		
		0.5	4			9.62	65.64		

TABLE 8.9.1.2.4

1 of 2

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.	9			17.22			
		0.05	9		0.48	15.9			
		0.5	9	0.13					
		0.7	9		6.36	70.23			
		0.33	13.3		1.45				
T651	PLATE	0.33	20		1.01	23.98			
		0.33	25	0.05	4.19	28.69			
		0.8	25	0.42					
T6511	EXTRUSION	0.05	9			13.85	52.37		
		0.5	9		3.07	24.25	176.06		
T73	FORGED BAR	0.1	1			1.81	27.3		
		0.3	1				44.47		
		0.5	1			14.55			

TABLE 8.9.1.2.4 (CONCLUDED)

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)						
				ΔK Level (Ksi/in)						
				2.5	5.0	10.0	20.0	50.0	100.0	
T7351	PLATE	0.1	12-30		0.73					
		0.1	12-30			10.14				
		0.25	19-30	0.09						
		0.33	25	0.1	0.98	12.83				
		0.33	25	0.08	1.4	12.78	90.85			
		0.33	200	0.1						
		0.5	12-30	0.17						
		0.5	12-30			13.33				
T73511-LOW PURITY	EXTRUSION	0.1	30			12.93				
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			14.91				

TABLE 8.9.1.2.5

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: JP-4 Jet Fuel

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.02	0.1-15			5.64	45.5		
		0.02	0.1-20		0.47	5.42	47.53		

TABLE 8.9.1.2.6

1 of 2

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (K_{SI}/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	PLATE	-1	10			5.48	89.09		
		0	10			6.17	51.97		
		0.5	10		1.31	14.21	486.22		
T6510	EXTRUSION	0.33	5.2			16.83			
T7351	PLATE	0.08	1		0.42	7.03			
		0.08	6			6.86			
		0.08	6		0.32	6.85	69.32		
		0.3	6			7.53			
		0.5	6		1.56	13.69			
T73511	EXTRUSION	0.08	0.1			6.62			
		0.08	1		0.73	7.17			
		0.08	6			7.74	43.04		
		0.08	6			4.01	39.1		
		0.08	6			6.74	40.18		
T7352	FORGING	0.7	6	0.16	1.59	17.24			
		0.08	6			8.65			

TABLE 8.9.1.2.6 (CONCLUDED)

2 of 2

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T76	SHEET	0.08	1		0.58	5.83			
		0.08	6		0.62	5.87	43.84		
		0.3	6		0.8	10.11			
T7651	PLATE	0.08	1		0.89	8.31			
		0.08	1		0.36	10.01	52.3		
		0.08	6			5.63			
		0.08	6			5.18			
		0.3	6		0.54	10.82			
T76511	EXTRUSION	0.3	6		0.99	7.64			
		0.08	6		0.72	5.35			
		0.3	6		0.5	7.94	72.54		

TABLE 8.9.1.2.7

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T				ENVIRONMENT: Lab Air							
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10 ⁻⁶ in/cycle)							
				ΔK Level (Ksi/in)							
				2.5	5.0	10.0	20.0	50.0	100.0		
T6	SHEET	0.02	1					99.02			
		0.02	3					91.73			
		0.02	10			13.95	60.44				
		0.02	0.1-30				54.22				
		0.02	0.1-30			11.34	49.45				
		0.02	0.1-30				75.47				
		0.5	1			36.66					
		0.5	3			45.43					
	0.5	10		6.02	30.42	298.62					
T651	PLATE	0.02	10			8.02	53.63				
		0.02	0.1-30				49.44				
		0.02	1-30		1.69	17.34	80.15				
		0.02	0.1-30				65.66				
		0.02	0.1-30				61.61				
		0.02	---		1.57	14.98	59.24				
		0.33	7.5			14.89					
		0.5	10		3.02	20.79	657.63				

TABLE 8.9.1.2.7 (CONTINUED)

2 of 4

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
	UNSPECIFIED	-0.5	2.5	0.09	0.74				
		-0.1	2.5	0.05	0.72	7.7			
		0.1	2.5		0.4	3.04			
		0.5	2.5	0.1	0.68				
T6510	EXTRUSION	0.33	5.2			24.33			
	EXTRUDED BAR	0.33	5.2			17.11			
T6511	FORGING	0.1	40	0.09	1.18				
		0.5	30	0.19					
	EXTRUSION	-1	---		1.01	13.77			
		-0.5	---		0.76	14.84	53.88		
		0.01	---		0.99	13.04	68.19		
		0.4	5	0.15	2.76	29.07			
		0.6	---	0.19	3.72	35.58			
		0.8	3	0.41	6.36	119.9			

7075

TABLE 8.9.1.2.7 (CONTINUED)

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	PLATE	-1	20		0.57	9.02			
		-0.5	20		0.55	8.53			
		0.05	20	0.06	0.58	11.43			
		-1	10			4.99	50.45		
T7351	PLATE	0.02	0.08			3.92	73.22		
		0.02	1			5.04	41.54		
		0.02	10			5.1	45.2		
		0.02	10			3.54	32.48		
		0.02	10			4.06	42.79		
		0.02	0.1-15			10.86	84.32		
		0.02	0.1-20		0.36	4.38	49.07		
		0.5	10		1.87	11.65	125.97		
T73510	EXTRUSION	0.33	5.2			12.72			
		0.33	5.2			12.23			
	EXTRUDED BAR	0.33	5.2			12.83	92.16		

TABLE 8.9.1.2.7 (CONCLUDED)

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**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	$FCGR (10^{-6} \text{ in/cycle})$					
				$\Delta K \text{ Level (Ksi/in)}$					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.1	10		0.7	11.04	55.56		
		0.1	20		0.84	9.82	58.35		
		0.5	20		2.14	12.88			
		0.5	20		2.22	15.09			
		0.5	25	0.13					
		0.8	20		2.25				
		0.8	30	0.27					
		0.1	30			6.41	37.29		
T73511-HIGH PURITY	EXTRUSION								
T73511-LOW PURITY	EXTRUSION	0.1	30			7.8			
T73511-MEDIUM PURITY	EXTRUSION	0.1	30			7.46			
T7352	FORGING	0.33	5.17			13.73			
	BILLET	0.02	1-30				32.78		
T74	HAND FORGING	0.8	20		2.53				
T74511	EXTRUSION	0.5	0.5		1.65	10.86			

TABLE 8.9.1.2.8

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: S.C.S.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.08	1			9.43			
T7651	PLATE	0.08	1		1.2	9.4			

TABLE 8.9.1.2.9

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: L-T

ENVIRONMENT: S.S.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7351	PLATE	0.02	0.1-20		0.44	6.94	54.74	100.0

TABLE 8.9.1.2.10

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: L-T

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T8511	EXTRUSION	0.8	1	0.46	19.1	101.56			
T73	FORGED BAR	0.1	1				27.97		
		0.5	1			17.38	170.93		
T7351	PLATE	0.08	6		0.47	9.33			
T73511	EXTRUSION	0.08	0.1		0.58	18.67			
		0.08	1		0.85	18.49			
		0.3	1			23.27			
		0.5	1	0.2	5.32	26.19			
T7651	PLATE	0.08	1		0.87	13.9			
		0.08	1		1.14	8.94			
		0.3	1		2.12	12.28			
		0.5	1		3	15			

TABLE 8.9.1.2.11

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-S

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.33	5.17			13.78		
								100.0

TABLE 8.9.1.2.12

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-S

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.33	5.17				12.52	
								100.0

TABLE 8.9.1.2.13

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-S

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.33	5.17			9.75		
								100.0

TABLE 8.9.1.2.14

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			33.59			
		0.1	1			23.09			
		0.5	0.1			65.05			
		0.5	1		5.4				

TABLE 8.9.1.2.15

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L**ENVIRONMENT: Alternate JP-4 & Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (K_{SI}/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T851	PLATE	0.1	1			12.5			
		0.5	1		2.89				

TABLE 8.9.1.2.16

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L **ENVIRONMENT: Distilled Water**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			11.42			
		0.1	1			18.81			
		0.5	0.1		3.21	38.95			
		0.5	1			34.77			

TABLE 8.9.1.2.17

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L**ENVIRONMENT: Dry Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T851	PLATE	0.1	1			9.98			
		0.5	0.1			37.72			
		0.5	1		2.1	37.66			
T73	FORGED BAR	0.1	4		0.3	5.3			
		0.3	4		0.16	8.85			
		0.5	4		1.27	31.73			

TABLE 8.9.1.2.18

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: H.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73	FORGED BAR	0.3	1		0.52	11.49			
		0.5	1		1.26	18.05			

TABLE 8.9.1.2.19

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: L.H.A.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T7351	PLATE	0.08	6			4.09			
		0.08	6		0.49				
T73511	EXTRUSION	0.08	6			5.95	66.66		
		0.08	6		0.63	4.72			
T76	SHEET	0.08	6			9.67	71.37		
T7651	PLATE	0.08	6			4.75			
		0.08	6			3.93			
T76511	EXTRUSION	0.08	6			4.42			

TABLE 8.9.1.2.20

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T6	SHEET	0.	13.3			6.28	40.73		
		0.33	13.3			11.19	175.2		
T73510	EXTRUSION	0.33	5.2			14.15			
T73511-HIGH PURITY	EXTRUSION	0.1	30			4.47	34.47		
T73511-LOW PURITY	EXTRUSION	0.1	30			8.52			
T7352	PLATE	0.02			1.08	10.23			
		0.02			0.48	6.44	59.97		
	FORGING	0.02			1.88	14.09	132.86		
		0.02					27.53		
		0.33	5.17			11.37	65.53		

TABLE 8.9.1.2.21

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L		ENVIRONMENT: Nitrogen Gas						
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (Ksi/in)				
				2.5	5.0	10.0	20.0	50.0
T851	PLATE	0.5	20	1.05				
				100.0				

TABLE 8.9.1.2.22

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L

ENVIRONMENT: S.C.S.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T73511	EXTRUSION	0.08	6			9.38			
T7651	PLATE	0.08	1		0.89	10.05			

TABLE 8.9.1.2.23

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: T-L

ENVIRONMENT: S.T.W.

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.	15		0.97				
		0.1	0.1			44.11			
		0.1	1			30.95			
		0.5	1		8.27	62.34			
T73	FORGED BAR	0.1	1		1.07	20.36			
		0.3	1		2.28	24.82			
		0.5	1		4.08	40.62			
T7351	PLATE	0.08	1			18.51			
T73511	EXTRUSION	0.08	1			19.77			
		0.08	1			14.78			

7075

TABLE 8.9.1.2.24

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: T-L		ENVIRONMENT: Water Saturated JP-4 Jet Fuel							
CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.1	0.1			11.33	156.2		
		0.5	0.1		3.88	25.39			
		0.5	1		3.13	44.97			

TABLE 8.9.1.2.25

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: S-T

ENVIRONMENT: 3.5% NaCl

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.5	0.2		39.53				
T7351	PLATE	0.5	0.13		7.22				
		0.5	0.2		7.85				

TABLE 8.9.1.2.26

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: S-T**ENVIRONMENT: Lab Air**

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (K_{SI}/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.33	5.17				13.29	
								100.0

TABLE 8.9.1.2.27

1 of 1

FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE

ORIENTATION: S-T

ENVIRONMENT: Nitrogen Gas

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)					
				ΔK Level (Ksi/in)					
				2.5	5.0	10.0	20.0	50.0	100.0
T651	PLATE	0.5	20		2.24				
T7351	PLATE	0.5	10		1.4				
		0.5	1-20		1.51	12.04			

TABLE 8.9.1.2.28

1 of 1

**FATIGUE CRACK GROWTH RATE AT DEFINED LEVELS OF STRESS INTENSITY FACTOR ΔK
7075 AT ROOM TEMPERATURE**

ORIENTATION: S-L

ENVIRONMENT: Lab Air

CONDITION/ HEAT TREATMENT	PRODUCT FORM	R	FREQ (Hz)	FCGR (10^{-6} in/cycle)				
				ΔK Level (K_{SI}/in)				
				2.5	5.0	10.0	20.0	50.0
T7352	FORGING	0.33	5.17			19.48		
								100.0

TABLE 8.9.2.1

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /√S) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T6	Forging	0.50	R.T.	L-T	79.0	1.000	0.500	CT	0.534	0.23	24.20	24.3	0.1	1973	86213
		0.50				1.000	0.500	CT	0.523	0.24	24.40			1973	86213
T6	Forging	0.89	R.T.	T-L	67.2	0.500	0.249	NB	0.265	0.21	19.70	20.9	1.7	1973	86213
		0.89				0.500	0.249	NB	0.273	0.25	22.10			1973	86213
T6	Forging	0.50		S-L	65.4	1.000	0.499	CT	0.493	0.17	17.00	16.8	0.4	1973	86213
		0.50				1.000	0.500	CT	0.510	0.16	16.70			1973	86213
		0.50				1.000	0.500	CT	0.496	0.16	16.40			1973	86213
		0.50				1.000	0.500	CT	0.505	0.17	17.20			1973	86213
T6	Forging	0.75	82	L-T	69.9	2.000	0.500	CT	1.025	0.44	29.20	---	---	1973	86213
T6	Forging	0.89	82	T-L	57.4	1.500	0.749	CT	0.785	0.32	20.40	19.4	1.7	1973	86213
		0.89				1.500	0.749	CT	0.762	0.32	20.40			1973	86213
		0.75				1.000	0.500	CT	0.511	0.17	17.50			1973	86213
T6	Forging	0.89	84	T-L	68.0	1.500	0.750	CT	0.792	0.24	21.20	20.6	0.8	1973	86213
		0.89				1.500	0.750	CT	0.798	0.22	20.00			1973	86213
T6	Extrusion	2.00	R.T.	T-L	72.0	1.500	0.750	CT	0.797	0.19	20.00	19.9	0.2	1973	86213
		2.00				1.500	0.749	CT	0.798	0.18	19.70			1973	86213
		2.00				1.500	0.748	CT	0.791	0.19	20.10			1973	86213
T6	Extrusion	2.00	R.T.	S-L	67.0	1.500	0.748	CT	0.791	0.19	18.50	18.5	0.2	1973	86213
		2.00				1.500	0.750	CT	0.798	0.19	18.30			1973	86213
		2.00				1.500	0.749	CT	0.808	0.19	18.70			1973	86213
		2.00				1.500	0.750	CT	0.750	0.20	19.60			1972	82879
T6	Forged Bar	---	R.T.	C-L	68.6	1.500	0.750	CT	0.750	0.20	19.30	19.5	0.2	1972	82879

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Kcal)	SPECIMEN			CRACK LENGTH (in.) A	3.5 • (K _{1c} /TVS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Kcal • √in.)	K _{1c} MEAN	STAN DEV		
T6	Rolled Bar	4.50	82	T-L	62.9	1.500	0.749	CT	0.788	0.40	25.30	24.3	1.2	1973	86213
		4.50			62.9	1.500	0.750	CT	0.789	0.35	23.60			1973	86213
		4.50			62.9	1.500	0.749	CT	0.796	0.41	25.40			1973	86213
		4.50			62.9	1.500	0.749	CT	0.778	0.33	23.00			1973	86213
T651	Plate	1.38	-320	T-L	92.0	3.000	1.390	NB	1.580	0.19	25.10	---	---	1971	84288
T651	Plate	1.38	-112	T-L	82.8	3.000	1.390	NB	1.520	0.19	22.60	22.6	0.0	1971	84288
		1.37			82.8	2.990	1.388	NB	1.517	0.19	22.60			1973	86213
T651	Plate	0.62	-65	T-L	80.8	1.250	0.630	CT	0.600	0.18	21.80	21.4	0.6	1973	88140
		0.62			80.8	1.250	0.630	CT	0.600	0.17	21.00			1973	88140
T651	Plate	1.37	R.T.	L-S	75.4	1.010	0.499	CT	0.525	0.32	27.50	---	---	1978	MPC01
T651	Plate	5.00	R.T.	L-T	56.0	2.006	0.999	CT	1.003	0.70	30.00	26.5	2.0	1978	MPC01
		4.00			61.0	3.982	1.998	CT	1.991	0.50	27.60			1978	MPC01
		4.00			61.0	4.016	1.998	CT	1.968	0.48	27.30			1978	MPC01
		3.00			66.8	2.002	0.999	CT	1.001	0.42	27.80			1978	MPC01
		2.50			69.7	2.000	0.999	CT	1.000	0.28	24.10			1978	MPC01
		2.00			70.0	2.000	0.828	CT	1.037	0.42	28.70			1972	84306
		3.00			70.2	2.500	1.250	CT	1.273	0.48	30.60			1971	84360
		3.00			70.2	2.490	1.250	CT	1.329	0.44	29.40			1971	84360
		2.00			72.2	1.996	0.999	CT	1.038	0.44	30.50			1978	MPC01
		2.00			72.2	1.994	0.999	CT	1.037	0.42	30.10			1978	MPC01
		2.00			73.3	1.989	0.999	CT	1.034	0.32	26.80			1978	MPC01
		2.00			73.9	3.007	1.000	CT	1.654	0.36	28.80			1978	MPC01
		2.50			74.6	2.490	1.246	CT	1.228	0.27	24.50			1971	84360

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TVG) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T851 Cont'd	Plate Cont'd	2.50	R.T. Cont'd	L-T Cont'd	74.6	2.500	1.250	CT	1.252	0.31	26.20	Cont'd	Cont'd	1971	84360
		1.37			75.4	3.008	1.388	NB	1.534	0.30	26.70			1978	MPC01
		1.37			75.4	1.983	0.997	CT	1.051	0.32	27.70			1978	MPC01
		1.37			75.4	3.000	1.388	NB	1.509	0.30	26.00			1973	86213
		1.37			75.4	3.000	1.386	NB	1.472	0.30	26.10			1973	86213
		1.37			75.4	3.029	1.387	NB	1.454	0.34	28.10			1978	MPC01
		1.37			75.4	2.973	1.384	NB	1.516	0.28	26.20			1978	MPC01
		1.37			75.4	2.978	1.386	NB	1.489	0.30	26.60			1978	MPC01
		1.37			75.4	3.013	1.385	NB	1.627	0.38	29.60			1978	MPC01
		1.37			75.4	1.989	0.997	CT	1.054	0.34	28.30			1978	MPC01
		1.37			75.4	3.000	1.384	NB	1.436	0.25	24.10			1973	86213
		1.37			75.4	3.014	1.388	NB	1.477	0.40	30.30			1978	MPC01
		2.50			75.5	2.502	1.250	CT	1.248	0.35	28.20			1974	MA011
		2.50			75.5	2.559	1.255	CT	1.324	0.32	27.20			1975	MA012
		2.00			75.7	2.490	1.251	CT	1.271	0.29	25.80			1971	84360
		2.00			75.7	2.500	1.248	CT	1.269	0.28	25.20			1971	84360
		1.75			76.1	1.490	0.748	CT	0.775	0.25	24.50			1978	MPC01
		1.75			76.1	1.500	0.750	CT	0.765	0.27	25.50			1978	MPC01
		1.50			76.1	1.502	0.749	CT	0.766	0.27	25.60			1978	MPC01
		1.50			76.1	1.514	0.748	CT	0.772	0.28	25.90			1978	MPC01
		0.62			76.2	1.496	0.642	CT	0.778	0.32	27.80			1978	MPC01
		1.75			77.2	1.500	0.748	CT	0.765	0.27	25.60			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} ITS)* (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	R.T. Cont'd	L-T Cont'd	77.2	1.990	1.001	CT	0.975	0.32	27.80	Cont'd	Cont'd	1973	86213	
				77.2	1.506	0.747	CT	0.768	0.25	25.10			1978	MPC01	
				77.2	1.990	1.001	CT	0.978	0.32	27.80			1973	86213	
				78.4	2.006	1.000	CT	1.023	0.24	24.70			1978	MPC01	
				78.8	1.498	0.510	CT	0.764	0.28	27.50			1978	MPC01	
				79.1	3.000	1.375	NB	1.437	0.26	25.60			1973	86213	
				79.1	3.000	1.386	NB	1.476	0.24	24.70			1973	86213	
				79.1	3.000	1.386	NB	1.465	0.26	25.70			1973	86213	
				79.1	3.012	1.386	NB	1.476	0.24	25.20			1978	MPC01	
				79.1	2.988	1.386	NB	1.494	0.24	25.20			1978	MPC01	
				79.1	2.980	1.386	NB	1.460	0.25	25.60			1978	MPC01	
				79.1	3.000	1.375	NB	1.500	0.23	24.00			1973	86213	
				79.1	3.014	1.387	NB	1.507	0.15	20.10			1978	MPC01	
				79.2	1.574	0.643	CT	0.772	0.28	27.60			1978	MPC01	
				80.6	3.000	1.371	NB	1.563	0.25	25.40			1973	86213	
				80.6	1.500	0.752	CT	0.772	0.28	27.10			1973	86213	
				80.6	3.000	1.373	NB	1.550	0.25	25.60			1973	86213	
				80.6	1.500	0.752	CT	0.747	0.27	26.30			1973	86213	
				80.6	3.029	1.371	NB	1.484	0.19	23.30			1978	MPC01	
				81.1	2.043	0.606	CT	1.042	0.27	26.80			1978	MPC01	
				81.2	1.496	0.749	CT	0.778	0.19	22.80			1978	MPC01	
				81.2	1.490	0.750	CT	0.775	0.19	22.80			1978	MPC01	

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (K _{1c} • √in.)	K _{1c} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.75	R.T. Cont'd	L-T Cont'd	81.5	1.991	1.001	CT	1.055	0.27	27.50	Cont'd	Cont'd	1978	MPC01
		1.75			81.5	1.985	1.002	CT	1.032	0.24	26.00			1978	MPC01
		1.75			81.5	1.990	1.002	CT	1.039	0.26	26.30			1973	86213
		1.75			81.5	2.000	1.001	CT	1.063	0.28	27.40			1973	86213
		1.75			81.5	2.021	1.000	CT	1.061	0.27	26.90			1978	MPC01
		1.75			81.5	2.010	1.000	CT	1.058	0.28	27.20			1973	86213
		5.00			51.3	2.018	0.999	CT	0.989	0.50	23.50			1978	MPC01
		4.00			59.6	4.000	1.998	CT	2.080	0.34	22.30			1978	MPC01
T651	Plate	4.00	R.T.	T.L.	59.6	3.973	1.999	CT	2.066	0.34	22.20	22.5	2.0	1978	MPC01
		2.50			60.9	2.018	0.999	CT	1.009	0.34	22.80			1978	MPC01
		2.00			68.2	1.010	0.499	CT	0.495	0.25	22.30			1978	MPC01
		2.00			68.2	3.002	0.499	CT	0.501	0.25	21.90			1978	MPC01
		3.00			68.6	1.990	0.999	CT	1.035	0.25	22.10			1978	MPC01
		1.75			69.5	1.513	0.748	CT	0.726	0.19	20.00			1978	MPC01
		1.75			69.5	1.496	0.749	CT	0.733	0.19	19.90			1978	MPC01
		2.50			69.8	1.994	1.001	CT	1.037	0.24	21.90			1978	MPC01
		2.00			70.4	1.992	0.999	CT	1.036	0.25	23.10			1978	MPC01
		2.00			70.6	1.992	0.999	CT	1.016	0.28	24.30			1978	MPC01
		1.75			70.6	1.512	0.750	CT	0.756	0.21	20.80			1978	MPC01
		2.00			70.6	2.002	0.999	CT	1.021	0.28	24.30			1978	MPC01
		1.75			70.6	1.504	0.748	CT	0.722	0.19	20.30			1978	MPC01
		0.50			72.6	3.000	0.499	NB	1.500	0.34	26.90			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T851 Cont'd	Plate Cont'd	0.50	R.T. Cont'd	T.L. Cont'd	72.6	3.018	0.499	NB	1.479	0.30	25.60	Cont'd	Cont'd	1978	MPC01
		0.50			72.6	2.996	0.499	NB	1.438	0.30	25.60			1978	MPC01
		0.50			72.6	3.027	0.499	NB	1.453	0.28	25.00			1978	MPC01
		0.50			72.6	2.996	0.499	NB	1.438	0.28	25.00			1978	MPC01
		0.50			72.6	2.973	0.499	NB	1.516	0.32	26.60			1978	MPC01
		2.00			73.1	3.015	1.001	CT	1.628	0.24	23.00			1978	MPC01
		1.75			73.3	1.489	0.748	CT	0.774	0.22	22.70			1978	MPC01
		1.75			73.3	1.494	0.748	CT	0.777	0.22	22.30			1978	MPC01
		1.37			73.4	3.002	1.392	NB	1.501	0.21	22.00			1978	MPC01
		1.37			73.4	1.998	1.000	CT	1.079	0.25	24.00			1978	MPC01
		1.37			73.4	3.000	1.392	NB	1.530	0.24	22.70			1973	86213
		1.37			73.4	3.000	1.392	NB	1.593	0.18	19.70			1973	86213
		1.37			73.4	3.022	1.391	NB	1.511	0.27	24.40			1978	MPC01
		1.37			73.4	2.998	1.391	NB	1.499	0.21	21.40			1978	MPC01
		1.37			73.4	3.024	1.392	NB	1.542	0.15	18.60			1978	MPC01
		1.37			73.4	3.000	1.391	NB	1.576	0.25	23.30			1973	86213
		1.37			73.4	3.002	1.391	NB	1.441	0.25	24.00			1978	MPC01
		1.75			74.4	2.002	1.002	CT	1.021	0.19	21.30			1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.033	0.21	21.70			1973	86213
		1.75			74.4	1.992	1.002	CT	1.036	0.22	23.00			1978	MPC01
		1.75			74.4	2.000	1.002	CT	1.030	0.23	22.40			1973	86213
		1.75			74.4	1.990	1.003	CT	1.034	0.24	22.90			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{IC} JYS) ^a (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{IC} (Ksi • √in.)	K _{IC} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.50	R.T. Cont'd	T-L Cont'd	74.5	1.502	0.748	CT	0.796	0.25	24.10	Cont'd	Cont'd	1978	MPC01
		1.75			74.5	1.493	0.748	CT	0.821	0.19	21.50			1978	MPC01
		1.50			74.5	1.504	0.750	CT	0.782	0.24	23.60			1978	MPC01
		1.00			74.9	1.986	0.980	CT	1.092	0.22	22.50			1978	MPC01
		1.00			74.9	1.987	0.979	CT	1.093	0.21	22.30			1978	MPC01
		1.62			75.6	1.494	0.748	CT	0.762	0.18	20.90			1978	MPC01
		1.62			75.6	1.502	0.749	CT	0.766	0.18	21.10			1978	MPC01
		0.50			75.9	1.498	0.509	CT	0.764	0.25	24.80			1978	MPC01
		0.50			75.9	1.508	0.509	CT	0.754	0.24	24.20			1978	MPC01
		0.37			76.0	1.496	0.379	CT	0.763	0.21	22.50			1978	MPC01
		0.62			76.2	1.516	0.643	CT	0.773	0.27	25.80			1978	MPC01
		0.62			76.2	1.510	0.642	CT	0.770	0.25	25.10			1978	MPC01
		0.62			76.5	1.998	0.606	CT	0.979	0.19	21.80			1978	MPC01
		1.37			77.3	2.994	1.369	NB	1.527	0.16	20.30			1978	MPC01
		1.37			77.7	3.000	1.375	NB	1.484	0.16	19.80			1978	MPC01
		1.38			77.7	3.000	1.387	NB	1.484	0.33	19.70			1973	86213
		1.37			77.7	3.002	1.386	NB	1.534	0.21	22.90			1971	84288
		1.37			77.7	2.996	1.375	NB	1.468	0.18	21.00			1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.676	0.34	19.30			1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.566	0.36	21.10			1971	84288
		1.37			77.7	3.000	1.375	NB	1.469	0.18	21.00			1971	84288
		1.38			77.7	3.000	1.385	NB	1.575	0.36	21.30			1973	86213
		1.38			77.7	3.000	1.385	NB	1.575	0.36	21.30			1971	84288

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ TVS) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K ₀₁ • (K ₀₁ • √in.)	K ₀₁ MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.37	R.T. Cont'd	T-L Cont'd	77.7	3.016	1.385	NB	1.508	0.15	19.80	Cont'd	Cont'd	1978	MPC01
		1.38			77.7	3.000	1.387	NB	1.469	0.35	20.80			1971	84288
		1.37			77.7	3.000	1.375	NB	1.484	0.17	20.20			1973	86213
		1.37			77.7	3.000	1.386	NB	1.519	0.21	22.60			1973	86213
		1.37			77.7	3.000	1.375	NB	1.500	0.15	19.60			1978	MPC01
		1.38			77.7	3.000	1.385	NB	1.584	0.33	19.50			1971	84288
		1.38			77.7	3.000	1.387	NB	1.484	0.33	20.00			1971	84288
		1.38			77.7	3.000	1.386	NB	1.519	0.38	22.60			1971	84288
		1.25			78.9	2.006	0.999	CT	1.023	0.16	20.70			1978	MPC01
		1.37			79.3	1.496	0.751	CT	0.778	0.27	26.40			1978	MPC01
		1.37			79.3	1.506	0.752	CT	0.768	0.27	26.20			1978	MPC01
		1.37			79.3	1.498	0.752	CT	0.764	0.27	26.70			1978	MPC01
		0.62			80.6	1.250	0.630	CT	0.600	0.19	22.40			1973	88140
		0.62			80.6	1.250	0.630	CT	0.600	0.20	23.10			1973	88140
		0.50			80.7	1.994	0.504	CT	0.977	0.21	23.90			1978	MPC01
T651	Plate	4.00	R.T.	S-L	56.8	2.983	1.499	CT	1.551	0.36	21.60	17.6 2.7	1978	MPC01	
		4.00			56.8	3.031	1.500	CT	1.546	0.38	22.50		1978	MPC01	
		2.50			65.2	1.996	0.999	CT	0.998	0.18	18.00		1978	MPC01	
		2.50			65.8	2.006	1.002	CT	1.043	0.19	18.70		1978	MPC01	
		2.50			65.8	1.994	1.001	CT	1.057	0.18	18.00		1978	MPC01	
		2.50			65.8	2.010	1.002	CT	1.036	0.20	18.50		1973	86213	
		2.50			65.8	2.000	1.001	CT	1.046	0.18	17.60		1973	86213	
		2.50			65.8	2.000	1.001	CT	1.046	0.18	17.60		1973	86213	

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} • (K _{1c} • √in.)	K _{1c} MEAN	STAN DEV		
T651 Cont'd	Plate Cont'd	1.75	R.T. Cont'd	S-L Cont'd	70.2	0.992	0.500	CT	0.496	0.10	14.60	Cont'd	Cont'd	1978	MPC01
		1.75			70.2	1.000	0.500	CT	0.497	0.11	14.70			1973	86213
		1.75			70.2	1.000	0.500	CT	0.503	0.11	14.80			1973	86213
		1.75			70.2	1.000	0.500	CT	0.496	0.11	15.00			1973	86213
T651	Plate	2.00	82	T-L	67.2	1.000	0.499	CT	0.502	0.31	23.50	21.7	1.6	1973	86213
		2.00			67.2	1.000	0.500	CT	0.494	0.33	24.50			1973	86213
		2.00			67.4	1.000	0.500	CT	0.481	0.22	20.20			1973	86213
		2.00			67.4	4.000	1.997	CT	2.190	0.25	21.40			1973	86213
		2.00			67.4	1.000	0.500	CT	0.479	0.22	20.10			1973	86213
		2.00			67.4	1.000	0.500	CT	0.481	0.25	21.30			1973	86213
		2.00			67.4	1.000	0.500	CT	0.476	0.22	20.00			1973	86213
		2.00			68.2	1.000	0.499	CT	0.501	0.26	21.90			1973	86213
T651	Plate	2.00	82	S-L	68.2	1.000	0.500	CT	0.495	0.27	22.30	15.3	0.1	1973	86213
		2.00			64.1	1.000	0.500	CT	0.492	0.14	15.30			1973	86213
		2.00			64.1	1.000	0.500	CT	0.485	0.14	15.20			1973	86213
		2.00			64.1	1.000	0.498	CT	0.493	0.14	15.40			1973	86213
T651	Plate	2.00	83	L-T	76.8	2.000	1.000	CT	1.010	0.36	29.00	29.1	0.1	1973	86213
		2.00			76.8	2.000	1.000	CT	0.998	0.36	29.10			1973	86213
T651	Plate	2.00	83	T-L	67.4	3.000	1.500	CT	1.654	0.27	22.20	23.2	0.9	1973	86213
		2.00			74.1	2.000	1.001	CT	0.963	0.25	23.30			1973	86213
		2.00			74.1	2.000	1.000	CT	0.981	0.26	24.00			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^{1/2} (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T651	Plate	2.50	84	L-T	72.3	0.990	0.503	CT	0.518	0.32	25.70	24.9	1.2	1973	86213
		2.50				0.990	0.503	CT	0.504	0.28	24.00			1973	86213
T651	Plate	2.00	84	S-L	64.7	1.500	0.750	CT	0.727	0.22	19.10	18.3	0.7	1973	86213
		2.00				1.490	0.750	CT	0.731	0.21	18.70			1973	86213
		2.50				2.000	0.999	CT	0.998	0.19	18.00			1973	86213
		2.50				0.990	0.502	CT	0.509	0.20	18.40			1973	86213
		2.50				0.990	0.502	CT	0.505	0.18	17.80			1973	86213
		2.50				1.490	0.746	CT	0.707	0.16	17.10			1973	86213
T651	Plate	2.50	85	L-T	72.8	2.000	1.000	CT	1.020	0.32	25.90	25.9	0.0	1973	86213
		2.50				2.000	1.001	CT	1.058	0.32	25.90			1973	86213
T651	Plate	2.50	85	S-L	64.2	2.000	1.001	CT	1.004	0.21	18.60	19.0	0.6	1973	86213
		2.50				2.000	1.001	CT	0.991	0.23	19.40			1973	86213
T651	Plate	1.75	86	T-L	69.5	1.500	0.748	CT	0.726	0.21	20.00	20.3	0.4	1973	86213
		1.75				1.500	0.749	CT	0.733	0.20	19.90			1973	86213
		1.75				1.500	0.748	CT	0.722	0.21	20.30			1973	86213
		1.75				1.500	0.750	CT	0.756	0.22	20.80			1973	86213
T651	Plate	1.37	88	T-S	73.4	1.000	0.500	CT	0.519	0.32	26.10	26.7	0.8	1973	86213
		1.37				1.000	0.500	CT	0.496	0.34	27.20			1973	86213
T651	Plate	1.37	88	S-T	67.3	1.000	0.500	CT	0.492	0.20	18.80	19.0	0.2	1973	86213
		1.37				1.000	0.500	CT	0.491	0.20	19.10			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K ₁₀															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ TS) ² (in.)	K ₁₀			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K ₀₁ • (K ₀₁ • √in.)	K ₀₁ MEAN	STAN DEV		
T651	Plate	1.75	88	S-L	61.8	1.000	0.500	CT	0.496	0.19	17.10	18.4	1.2	1973	86213
		1.75			61.8	1.000	0.500	CT	0.485	0.21	17.70			1973	86213
		1.75			61.8	1.000	0.500	CT	0.493	0.20	17.50			1973	86213
		1.37			67.3	1.000	0.501	CT	0.488	0.19	18.70			1973	86213
		1.37			67.3	1.000	0.501	CT	0.518	0.21	19.40			1973	86213
		1.37			67.3	1.000	0.500	CT	0.486	0.22	20.00			1973	86213
T651	Plate	2.50	90	S-L	66.7	1.990	1.002	CT	0.972	0.15	16.40	---	---	1973	86213
T651	Plate	0.62	125	T-L	74.8	1.250	0.630	CT	0.600	0.26	24.00	24.2	0.3	1973	88140
		0.62			74.8	1.250	0.630	CT	0.600	0.27	24.40			1973	88140
T651	Extrusion	3.00	R.T.	L-T	69.5	2.990	1.498	CT	1.548	0.50	31.20	31.1	0.5	1973	86213
		3.00			69.5	2.990	1.499	CT	1.550	0.51	31.30			1973	86213
		3.00			77.2	3.000	1.500	CT	1.595	0.39	30.30			1973	86213
		3.00			77.2	3.000	1.499	CT	1.577	0.42	31.50			1973	86213
T651	Extrusion	5.00	R.T.	T-L	62.6	2.990	1.499	CT	1.540	0.26	20.10	20.2	0.2	1973	86213
		3.00			64.7	2.990	1.499	CT	1.548	0.25	20.50			1973	86213
		3.00			64.7	2.990	1.500	CT	1.542	0.25	20.30			1973	86213
		3.00			69.5	3.000	1.499	CT	1.566	0.21	20.20			1973	86213
		3.00			69.5	3.000	1.499	CT	1.573	0.20	19.90			1973	86213
		3.50			83.0	2.000	0.999	CT	1.032	0.38	32.30			1973	86213
T651	Extrusion	3.50	82	L-T	83.0	2.000	0.999	CT	1.027	0.38	32.20	32.3	0.1	1973	86213
T651	Extrusion	3.50	82	T-L	68.9	2.000	0.999	CT	0.994	0.17	18.20	18.3	0.1	1973	86213
		3.50			68.9	2.000	0.999	CT	0.976	0.18	18.30			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TVS) ³ (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T651	Extrusion	3.00	82	S-L	64.4	2.000	1.000	CT	1.005	0.26	20.70	20.1	0.8	1973	86213
		3.00			64.4	2.000	1.000	CT	1.014	0.23	19.50			1973	86213
T651	Extrusion	5.00	82	L-R	73.6	3.000	1.498	CT	1.548	0.58	35.50	33.9	1.6	1973	86213
		5.00			73.6	3.000	1.498	CT	1.549	0.53	34.00			1973	86213
		3.50			74.9	2.000	1.000	CT	1.065	0.46	32.30			1973	86213
		5.00			64.4	3.000	1.499	CT	1.588	0.28	21.70			1973	86213
T651	Extrusion	5.00	82	R-L	64.4	3.000	1.498	CT	1.585	0.28	21.40	20.4	1.4	1973	86213
		3.50			68.2	2.000	1.000	CT	1.059	0.20	19.40			1973	86213
		3.50			68.2	2.000	1.000	CT	1.043	0.19	19.00			1973	86213
		5.00			72.4	2.990	1.496	CT	1.603	0.56	34.40			1973	86213
T651	Rolled Bar	5.00	R.T.	L-T	72.4	2.990	1.496	CT	1.595	0.54	33.70	34.1	0.5	1973	86213
T651	Rolled Bar	5.00	R.T.	T-L	62.6	2.990	1.495	CT	1.523	0.22	18.60	---	---	1973	86213
T651	Rolled Bar	3.00	82	L-T	78.7	3.000	1.500	CT	1.628	0.37	30.40	30.5	0.1	1973	86213
		3.00			78.7	3.000	1.499	CT	1.636	0.38	30.50			1973	86213
T651	Rolled Bar	3.00	82	S-L	66.0	1.990	1.002	CT	0.962	0.18	17.80	17.8	0.0	1973	86213
		3.00			66.0	1.990	1.001	CT	0.964	0.18	17.80			1973	86213
T651	Rolled Bar	3.50	82	L-R	76.9	2.000	1.000	CT	1.063	0.49	34.20	33.9	0.4	1973	86213
		3.50			76.9	2.000	1.000	CT	1.044	0.48	33.60			1973	86213
T6510	Extrusion	3.50	R.T.	L-S	73.6	1.990	1.000	NB	1.063	0.64	37.20	36.8	2.3	1973	86213
		3.50			75.3	1.990	1.000	NB	0.989	0.72	40.40			1973	86213
T6510	Extrusion	3.50	R.T.	L-T	75.7	2.000	1.000	CT	1.035	0.44	31.80	27.5	2.1	1973	86213
		3.50			75.7	2.000	1.000	CT	0.995	0.44	31.80			1973	86213
		0.84			80.4	1.000	0.500	NB	0.502	0.26	26.10			1973	86213
		0.84													

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T6510 Cont'd	Extrusion Cont'd	0.84	R.T. Cont'd	L-T Cont'd	80.4	1.000	0.499	NB	0.471	0.29	27.50	Cont'd	Cont'd	1973	86213
		0.84			80.6	0.990	0.500	NB	0.476	0.28	26.00			1973	86213
		0.84			81.2	1.000	0.500	NB	0.505	0.30	28.20			1973	86213
		0.84			81.2	1.000	0.499	NB	0.505	0.27	26.70			1973	86213
		0.68			81.8	1.500	0.657	NB	0.765	0.26	26.60			1973	86213
		0.68			82.4	1.500	0.659	NB	0.722	0.28	27.60			1973	86213
		0.68			86.4	1.490	0.664	NB	0.729	0.22	25.80			1973	86213
		0.68			86.4	1.490	0.667	NB	0.740	0.22	25.60			1973	86213
		0.68			86.4	1.490	0.623	NB	0.696	0.24	26.50			1973	86213
		3.50			66.7	1.000	0.500	NB	0.500	0.26	21.50			1973	86213
T6510	Extrusion	3.50	R.T.	T-L	67.2	1.990	1.000	CT	1.003	0.27	21.90	23.3	1.6	1973	86213
		3.50			67.2	0.990	0.500	NB	0.469	0.25	21.10			1973	86213
		3.50			67.2	0.990	0.500	NB	0.495	0.24	20.90			1973	86213
		3.50			67.2	1.990	1.000	CT	0.974	0.27	22.10			1973	86213
		0.84			77.0	1.000	0.500	NB	0.461	0.26	24.70			1973	86213
		0.84			77.0	0.990	0.501	NB	0.467	0.23	23.60			1973	86213
		0.84			77.6	1.000	0.500	NB	0.461	0.19	21.40			1973	86213
		0.84			77.6	1.000	0.500	NB	0.475	0.25	24.40			1973	86213
		0.84			77.6	1.000	0.500	NB	0.482	0.23	23.70			1973	86213
		0.84			77.8	1.000	0.500	NB	0.512	0.29	26.50			1973	86213
T6510	Extrusion	0.84	R.T.	T-L	78.0	1.000	0.500	NB	0.467	0.24	24.20	23.3	1.6	1973	86213
		0.84			78.0	1.000	0.499	NB	0.488	0.24	24.00			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T6510 Cont'd	Extrusion Cont'd	0.68	R.T. Cont'd	T-L Cont'd	78.7	1.490	0.664	NB	0.684	0.23	24.00	Cont'd	Cont'd	1973	86213
		0.68			78.8	1.490	0.660	NB	0.691	0.22	23.20			1973	86213
		0.68			78.8	1.490	0.660	NB	0.700	0.25	24.80			1973	86213
T6510	Extrusion	3.50	R.T.	S-L	61.7	1.990	1.000	CT	0.941	0.24	19.20	20.0	1.3	1973	86213
		3.50			61.7	2.000	1.001	CT	0.965	0.24	19.20			1973	86213
		3.50			72.5	0.500	0.251	NB	0.274	0.22	21.50			1973	86213
T6510	Forged Bar	3.50	R.T.	L-S	73.6	1.995	0.999	NB	1.097	0.70	39.50	39.6	0.1	1978	MPC01
		3.50			75.3	1.992	1.000	NB	0.976	0.67	39.60			1978	MPC01
		3.50			74.6	2.006	0.998	NB	1.063	0.46	32.40			1978	MPC01
T6510	Forged Bar	3.50	R.T.	L-T	75.7	1.994	1.000	CT	1.037	0.44	31.90	29.2	3.4	1978	MPC01
		3.50			75.7	2.004	1.000	CT	1.002	0.44	32.10			1978	MPC01
		5.00			77.4	4.036	1.987	CT	2.018	0.52	35.70			1978	MPC01
		3.09			78.2	3.007	1.499	CT	1.563	0.34	29.30			1978	MPC01
		1.18			78.9	2.518	1.104	CT	1.284	0.22	24.30			1978	MPC01
		0.68			81.8	1.506	0.657	NB	0.783	0.27	27.70			1978	MPC01
		0.68			82.4	1.492	0.659	NB	0.716	0.27	27.20			1978	MPC01
		2.75			83.0	1.991	0.989	CT	1.075	0.30	29.50			1978	MPC01
		2.81			83.6	2.976	1.499	CT	1.577	0.34	31.40			1978	MPC01
		0.68			86.4	1.502	0.623	NB	0.691	0.22	26.20			1978	MPC01
		0.68			86.4	1.500	0.667	NB	0.735	0.21	25.40			1978	MPC01
0.68	86.4	1.498	0.664	NB	0.734	0.22	26.10	1978	MPC01						

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}																					
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TS) ^a (in.)	K _{1c}			DATE	REFER						
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV								
T6510	Forged Bar	5.00	R.T.	T-L	61.0	5.024	2.500	CT	2.562	0.27	20.70	21.4	1.8	1978	MPC01						
		3.50			66.7	0.998	0.500	NB	0.509	0.27	22.10			1978	MPC01						
		3.50			67.2	1.984	1.000	CT	0.972	0.25	22.00			1978	MPC01						
		3.50			67.2	2.012	1.000	CT	1.006	0.25	22.00			1978	MPC01						
		3.50			67.2	0.990	0.500	NB	0.495	0.24	20.90			1978	MPC01						
		3.50			67.2	1.000	0.500	NB	0.470	0.24	21.20			1978	MPC01						
		3.09			68.0	3.970	2.001	CT	2.144	0.22	20.80			1978	MPC01						
		2.81			68.4	2.987	1.498	CT	1.553	0.18	18.80			1978	MPC01						
		2.75			68.6	2.508	1.250	CT	1.279	0.15	17.60			1978	MPC01						
		1.18			74.5	2.487	1.104	CT	1.293	0.22	22.80			1978	MPC01						
		0.68			78.7	1.482	0.664	NB	0.667	0.21	23.20			1978	MPC01						
		0.68			78.8	1.502	0.660	NB	0.676	0.19	22.50			1978	MPC01						
T6510	Forged Bar	0.68	R.T.	S-L	78.8	1.491	0.660	NB	0.686	0.22	24.10	18.7	0.9	1978	MPC01						
		5.00			59.3	3.000	1.500	CT	1.530	0.28	20.30			1978	MPC01						
		3.50			61.7	2.015	1.001	CT	0.967	0.24	19.30			1978	MPC01						
		3.50			61.7	2.015	1.000	CT	0.927	0.22	18.80			1978	MPC01						
		3.50			61.8	0.500	0.249	NB	0.275	0.22	19.10			1978	MPC01						
		3.09			62.6	2.481	1.250	CT	1.290	0.21	18.20			1978	MPC01						
		2.81			65.9	2.018	0.999	CT	0.989	0.16	17.70			1978	MPC01						
		2.75			67.5	2.010	0.998	CT	0.985	0.16	17.80			1978	MPC01						
		1.25			79.2	3.011	1.217	NB	1.596	0.32	28.90			1978	MPC01						
		1.25			79.4	3.029	1.219	NB	1.575	0.27	26.90			1978	MPC01						
		T6511			Extrusion	1.25	R.T.	L-T	79.2	3.011	1.217			NB	1.596	0.32	28.90	27.9	1.4	1978	MPC01
						1.25			79.4	3.029	1.219			NB	1.575	0.27	26.90			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{ITB}) ² (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{Ic} (Ksi • √in.)	K _{Ic} MEAN	STAN DEV		
T6511	Extrusion	1.25	R.T.	T-L	75.4	3.014	1.170	NB	1.567	0.27	25.50	26.9	1.8	1978	MPC01
		1.25			75.4	3.016	1.170	NB	1.538	0.28	25.20			1978	MPC01
		1.25			75.8	2.996	1.166	NB	1.498	0.34	28.30			1978	MPC01
		1.25			75.8	2.977	1.168	NB	1.518	0.34	28.50			1978	MPC01
T6511	Extrusion	1.25	83	L-T	79.2	3.000	1.217	NB	1.547	0.30	27.40	26.4	1.4	1973	86213
		1.25			79.4	3.000	1.219	NB	1.525	0.26	25.40			1973	86213
T6511	Extrusion	1.25	83	T-L	75.4	3.000	1.170	NB	1.515	0.27	24.60	26.2	1.8	1973	86213
		1.25			75.4	3.000	1.170	NB	1.535	0.27	24.60			1973	86213
		1.25			75.8	3.000	1.168	NB	1.495	0.34	27.80			1973	86213
		1.25			75.8	3.000	1.166	NB	1.480	0.34	27.80			1973	86213
T73	Forging	1.00	R.T.	T-L	61.3	1.000	0.498	CT	0.509	0.43	25.30	---	---	1973	86213
T73	Forging	1.00	R.T.	S-L	57.0	1.000	0.499	CT	0.498	0.29	19.40	19.1	0.5	1973	86213
		1.00			57.0	1.000	0.499	CT	0.512	0.29	19.50			1973	86213
		1.00			57.0	1.000	0.499	CT	0.509	0.26	18.30			1973	86213
		1.00			57.0	1.000	0.499	CT	0.501	0.28	19.00			1973	86213
T73	Forging	4.00	82	L-T	57.0	2.990	1.503	CT	1.605	1.19	39.30	39.1	0.4	1973	86213
		4.00			59.5	3.000	1.503	CT	1.589	1.06	38.80			1973	86213
T73	Forging	4.00	82	T-L	53.8	3.000	1.500	CT	1.622	0.64	24.90	22.8	3.2	1973	86213
		4.00			54.7	3.000	1.500	CT	1.587	0.53	25.20			1973	86213
		4.00			55.6	3.000	1.500	CT	1.593	0.60	27.30			1973	86213
		4.00			56.8	3.000	1.500	CT	1.592	0.38	22.20			1973	86213
T73	Forging	0.75			60.8	1.000	0.500	CT	0.495	0.25	19.20			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73 Cont'd	Forging Cont'd	0.75	82	T-L Cont'd	60.8	1.000	0.500	CT	0.513	0.24	18.70	Cont'd	Cont'd	1973	86213
		0.89	Cont'd		64.4	1.500	0.749	CT	0.805	0.29	21.90			1973	86213
T73	Forging	4.00	82	S-L	54.7	3.000	1.504	CT	1.524	0.41	22.10	...	...	1973	86213
		4.00			53.0	3.000	1.488	CT	1.621	0.71	28.20			1973	86213
T73	Forging	4.00	84	S-L	54.5	3.000	1.499	CT	1.569	0.66	28.00	27.9	0.4	1973	86213
		4.00			56.4	3.000	1.499	CT	1.636	0.59	27.50			1973	86213
T73	Forging	0.89	85	T-L	64.3	1.500	0.751	CT	0.816	0.23	19.60	19.8	0.2	1973	86213
		0.89			64.3	1.500	0.751	CT	0.827	0.24	19.90			1973	86213
T73	Forged Bar	---		C-L	64.4	1.500	0.750	CT	0.750	0.26	20.60	21.5	0.7	1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.29	22.00			1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.27	21.10			1972	82879
		---			64.4	1.500	0.750	CT	0.750	0.29	22.10			1972	82879
T7351	Plate	1.37		T-L	66.0	3.000	1.387	NB	1.522	0.45	28.10	29.2	1.0	1973	86213
		1.37	-320		66.0	3.000	1.385	NB	1.530	0.50	29.50			1973	86213
		1.37			66.0	3.000	1.385	NB	1.480	0.52	30.10			1973	86213
T7351	Plate	1.37	-112	T-L	59.1	3.000	1.387	NB	1.562	0.57	28.20	...	...	1973	86213
		4.00			53.2	2.490	1.256	CT	1.271	0.87	31.20			1972	84363
T7351	Plate	4.00		L-T	53.2	2.490	1.248	CT	1.243	0.86	31.10	29.4	2.2	1972	84363
		4.00			53.2	2.500	1.258	CT	1.223	0.86	31.00			1972	84363
		1.25	R.T.		54.5	2.500	1.247	CT	1.286	1.01	34.80			1977	MA005
		1.25			54.5	2.493	1.250	CT	1.281	1.13	36.70			1977	MA005
		3.50			55.1	2.008	0.998	CT	1.004	0.60	27.20			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K _{ad})	SPECIMEN			CRACK LENGTH (in.) A	3.5 • (K _{ad} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{ad} • (K _{ad} • √in.)	K _{ad} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	R.T. Cont'd	L-T Cont'd	56.6	2.010	0.998	CT	1.005	0.60	27.90	Cont'd	Cont'd	1978	MPC01	
				57.8	2.493	1.250	CT	1.303	0.74	31.60			1977	MA005	
				57.8	2.502	1.250	CT	1.263	0.59	28.10			1977	MA005	
				58.0	2.990	0.994	CT	1.587	0.69	30.40			1972	84306	
				58.0	2.990	0.996	CT	1.576	0.75	31.70			1972	84306	
				58.0	2.990	0.995	CT	1.575	0.78	32.30			1972	84306	
				59.1	2.002	1.004	NB	1.101	0.55	28.00			1978	MPC01	
				59.1	2.000	1.012	NB	1.100	0.52	27.70			1978	MPC01	
				59.1	2.004	1.002	NB	1.082	0.50	26.60			1978	MPC01	
				59.6	2.000	1.000	CT	0.971	0.59	29.00			1973	86213	
				60.0	2.010	0.999	CT	1.005	0.44	25.70			1978	MPC01	
				61.7	1.028	0.514	WOL-CT EQ.	...	0.68	32.20			1980	MR001	
				61.7	1.028	0.514	WOL-CT EQ.	...	0.65	31.70			1980	MR001	
				62.0	2.000	1.000	CT	...	0.55	29.00			1982	NC003	
				62.0	2.000	1.000	CT	...	0.55	29.00			1982	NC003	
				62.2	1.983	1.000	CT	1.031	0.46	26.80			1978	MPC01	
				64.2	1.996	0.999	CT	1.018	0.46	27.90			1978	MPC01	
				64.7	2.990	0.805	CT	1.530	0.43	27.00			1972	84306	
				64.7	2.000	0.821	CT	1.074	0.41	26.30			1972	84306	
				64.7	2.000	0.819	CT	1.070	0.40	25.80			1972	84306	
				64.7	3.000	0.827	CT	1.512	0.50	29.10			1972	84306	

TABLE 8.9.2.1 (CONTINUED)

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ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	L-T Cont'd	64.7	3.000	0.805	CT	1.547	0.44	27.20	Cont'd	Cont'd	1972	84306
		2.00			64.7	2.000	0.823	CT	1.074	0.44	27.30			1972	84306
		1.00			65.9	1.989	0.976	CT	1.074	0.52	30.40			1978	MPC01
		1.00			65.9	1.994	0.975	CT	1.077	0.50	30.30			1978	MPC01
		1.37			66.3	2.986	1.375	NB	1.493	0.44	28.30			1978	MPC01
		1.37			66.3	3.020	1.374	NB	1.480	0.52	30.60			1978	MPC01
		1.37			66.3	3.022	1.374	NB	1.481	0.48	29.50			1978	MPC01
		1.37			66.3	3.012	1.375	NB	1.536	0.48	29.40			1978	MPC01
		1.37			66.3	2.020	1.002	CT	1.030	0.46	29.10			1978	MPC01
		1.37			66.3	3.000	1.375	NB	1.440	0.41	26.80			1973	86213
		1.37			66.3	3.000	1.375	NB	1.585	0.53	30.60			1973	86213
		1.37			66.3	3.000	1.375	NB	1.545	0.50	29.70			1973	86213
		1.37			66.3	3.000	1.374	NB	1.554	0.56	31.30			1973	86213
		1.37			66.3	3.000	1.374	NB	1.506	0.52	30.30			1973	86213
		1.37			66.3	3.000	1.374	NB	1.485	0.54	30.80			1973	86213
		1.37			66.3	3.028	1.375	NB	1.514	0.44	28.20			1978	MPC01
		1.37			66.3	3.027	1.374	NB	1.483	0.46	29.00			1978	MPC01
		1.37			66.3	2.018	1.001	CT	1.029	0.48	29.60			1978	MPC01
		1.37			66.3	2.022	1.001	CT	1.011	0.46	28.70			1978	MPC01
		2.00			67.1	3.007	1.001	CT	1.624	0.52	31.20			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	3.5 • (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7351	Plate	3.50	R.T.	T-L	54.9	1.992	0.998	CT	0.976	0.42	22.70	26.2	3.2	1978	MPC01
		1.38			56.8	3.000	1.380	NB	1.557	0.65	28.90			1972	82880
		1.38			56.8	2.000	1.000	NB	1.015	0.56	27.00			1972	82880
		1.38			56.8	1.500	0.750	NB	0.782	0.55	26.60			1972	82880
		1.38			56.8	1.500	0.750	NB	0.763	0.54	26.50			1972	82880
		1.38			56.8	1.500	0.750	NB	0.792	0.58	27.30			1972	82880
		1.38			56.8	3.000	1.390	NB	1.498	0.59	27.60			1972	82880
		1.38			56.8	2.000	1.000	NB	1.065	0.65	28.90			1972	82880
		1.38			56.8	3.000	1.380	NB	1.538	0.61	28.10			1972	82880
		1.38			56.8	2.000	1.000	NB	1.035	0.59	27.70			1972	82880
		3.00			57.1	1.990	0.999	CT	1.015	0.34	21.60			1978	MPC01
		1.37			58.5	2.000	1.012	NB	1.069	0.80	33.10			1973	86213
		1.37			58.5	2.000	1.011	NB	1.030	0.76	32.30			1973	86213
		1.37			58.5	2.018	1.011	NB	1.029	0.75	32.30			1978	MPC01
		1.37			58.5	2.000	1.011	NB	1.075	0.79	32.80			1973	86213
		1.37			58.5	2.014	1.011	NB	1.027	0.65	30.20			1978	MPC01
		1.37			58.5	1.985	1.012	NB	1.032	0.70	31.10			1978	MPC01
		2.00			59.0	2.990	0.995	CT	1.564	0.47	25.60			1972	84306
		2.00			59.0	2.990	0.995	CT	1.551	0.44	24.80			1972	84306
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.40	24.90			1980	MR001
		1.00			61.7	1.028	0.514	WOL-CT EQ.	---	0.40	24.79			1980	MR001
		1.00			62.2	1.996	0.979	CT	1.038	0.32	22.70			1978	MPC01
		1.00			62.2	2.004	0.978	CT	1.082	0.32	23.00			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7351 Cont'd	Plate Cont'd	1.50	R.T. Cont'd	T-L Cont'd	64.2	1.994	0.999	CT	1.017	0.30	22.60	Cont'd	Cont'd	1978	MPC01
		1.37			64.6	3.006	1.373	NB	1.503	0.40	25.90			1978	MPC01
		1.37			64.6	2.002	1.000	CT	1.021	0.36	25.10			1978	MPC01
		1.37			64.6	1.992	1.001	CT	1.016	0.36	24.80			1978	MPC01
		1.37			64.6	2.012	1.001	CT	1.025	0.36	24.80			1978	MPC01
		1.37			64.6	3.025	1.375	NB	1.482	0.34	24.20			1978	MPC01
		1.37			64.6	3.025	1.373	NB	1.482	0.36	24.90			1978	MPC01
		1.37			64.6	3.024	1.375	NB	1.542	0.32	23.80			1978	MPC01
		1.37			64.6	3.000	1.375	NB	1.528	0.39	25.40			1973	86213
		2.00			66.0	3.000	0.827	CT	1.515	0.31	23.10			1972	84306
		2.00			66.0	3.000	0.806	CT	1.538	0.28	22.00			1972	84306
		2.00			66.0	3.000	0.827	CT	1.536	0.30	23.00			1972	84306
		2.00			67.6	3.020	1.000	CT	1.631	0.28	23.10			1978	MPC01
		2.00			60.0	1.500	0.499	CT	0.762	0.23	18.20			1972	84306
T7351	Plate	1.37	R.T.	S-L	61.2	1.000	0.500	CT	0.492	0.22	18.20	18.5	0.4	1973	86213
		1.37			61.2	1.000	0.500	CT	0.488	0.24	18.80			1973	86213
		1.37			61.2	1.000	0.501	CT	0.497	0.24	18.80			1973	86213
		1.37			61.2	1.010	0.500	CT	0.485	0.22	18.70			1978	MPC01
		1.37			61.2	1.000	0.501	CT	0.500	0.24	19.00			1978	MPC01
		1.37			61.2	0.996	0.500	CT	0.488	0.21	18.00			1978	MPC01
		2.50			64.8	1.490	0.749	CT	0.778	0.43	26.90			1973	86213
T7351	Plate	2.50	82	L-T	64.8	1.490	0.748	CT	0.768	0.44	27.20	27.1	0.2	1973	86213
		2.50			64.8	1.490	0.748	CT	0.768	0.44	27.20			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (K ₀₁ • √in.)	K _{1c} MEAN	STAN DEV		
T7351	Plate	2.00	83	L-T	57.3	2.000	1.000	CT	0.967	0.66	29.40	28.9	0.7	1973	86213
		2.00				2.000	1.000	CT	0.985	0.61	28.40			1973	86213
T7351	Plate	2.00	83	T-L	56.5	2.000	0.999	CT	0.961	0.43	23.40	19.1	0.6	1973	86213
		2.00				1.490	0.750	CT	0.724	0.32	19.40			1973	86213
		2.00				1.500	0.750	CT	0.730	0.33	19.60			1973	86213
		2.50				0.990	0.502	CT	0.509	0.26	19.10			1973	86213
		2.50				0.990	0.502	CT	0.509	0.23	18.20			1973	86213
T7351	Plate	1.75	88	S-L	60.2	1.000	0.500	CT	0.502	0.23	18.30	18.2	0.7	1973	86213
		1.75				1.000	0.500	CT	0.500	0.25	18.90			1973	86213
		1.75				1.000	0.500	CT	0.496	0.21	17.50			1973	86213
T7351	Extrusion	0.97	82	S-L	53.5	1.000	0.458	CT	0.491	0.37	20.50	21.3	0.9	1973	86213
		0.97				1.000	0.408	CT	0.515	0.40	22.30			1973	86213
		0.97				1.000	0.454	CT	0.517	0.35	21.00			1973	86213
		0.97				2.000	0.950	CT	0.969	0.65	33.30			1973	86213
T7351	Extrusion	0.97	84	L-T	65.3	2.000	0.949	CT	0.965	0.67	33.70	33.5	0.5	1973	86213
		0.97				2.000	0.948	CT	1.035	0.67	33.90			1973	86213
		0.97				2.000	0.951	CT	1.011	0.67	34.00			1973	86213
		0.97				2.000	0.953	CT	1.013	0.63	33.20			1973	86213
		0.97				2.000	0.952	CT	1.004	0.61	32.60			1973	86213
		4.50				2.000	1.000	CT	0.968	0.40	20.80			1973	86213
		7.04				2.000	0.997	CT	1.018	0.34	20.00			1973	86213
T7351	Extrusion	7.04	84	T-L	54.4	2.000	0.997	CT	1.007	0.35	20.30	20.6	0.6	1973	86213
		4.65				2.000	0.998	CT	1.017	0.30	20.30			1973	86213

TABLE 8.9.2.1 (CONTINUED)

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ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7351 Cont'd	Extrusion Cont'd	4.65	84 Cont'd	T-L Cont'd	58.2	2.000	0.999	CT	1.015	0.30	20.10	Cont'd	Cont'd	1973	86213
		1.22			59.9	2.000	0.997	CT	1.034	0.30	20.60			1973	86213
		1.22			59.9	2.000	0.999	CT	1.016	0.28	20.10			1973	86213
		0.97			61.4	2.000	0.950	CT	0.941	0.27	20.30			1973	86213
		0.97			61.4	2.000	0.952	CT	0.997	0.32	21.80			1973	86213
		0.97			61.4	2.000	0.949	CT	0.972	0.28	20.40			1973	86213
		0.97			61.4	2.000	0.949	CT	0.945	0.26	19.70			1973	86213
		0.97			61.6	2.000	0.951	CT	0.948	0.28	20.50			1973	86213
		0.97			61.6	2.000	0.948	CT	0.965	0.28	20.50			1973	86213
		1.22			61.8	2.000	1.000	CT	1.049	0.31	21.90			1973	86213
		1.22			61.8	2.000	0.987	CT	1.031	0.29	21.20			1973	86213
		7.04			62.5	2.000	0.999	CT	1.008	0.44	22.00			1973	86213
T7351	Extrusion	7.04	86	T-L	52.5	2.000	0.998	CT	1.005	0.42	21.40	20.6	1.3	1973	86213
		4.65			58.9	2.000	1.001	CT	1.024	0.27	19.30			1973	86213
		4.65			58.9	2.000	0.999	CT	1.018	0.28	19.80			1973	86213
		7.04			51.8	2.000	0.999	CT	0.954	0.33	18.90			1973	86213
T7351	Extrusion	7.04	86	S-L	51.8	2.000	0.999	CT	0.971	0.38	20.10	19.4	0.7	1973	86213
		4.65			55.6	2.000	0.997	CT	0.991	0.28	18.70			1973	86213
		4.65			55.6	2.000	0.999	CT	1.008	0.31	19.70			1973	86213
		0.68			65.0	1.500	0.620	NB	0.695	0.53	31.30			1969	77140

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS)* (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) • √(in.)	K _{1c} MEAN	STAN DEV		
T73510	Extrusion	3.50	R.T.	T-L	56.8	1.000	0.500	NB	0.515	0.39	22.40	24.6	2.3	1969	77140
		3.50			58.6	0.990	0.500	NB	0.471	0.40	23.50			1969	77140
		3.50			58.6	0.990	0.500	NB	0.485	0.36	22.20			1969	77140
		3.50			58.6	1.990	1.001	CT	0.949	0.42	23.90			1969	77140
		3.50			58.6	1.990	1.001	CT	0.946	0.41	23.80			1969	77140
		3.50			59.8	0.990	0.500	NB	0.470	0.42	24.50			1969	77140
		3.50			59.8	0.990	0.500	NB	0.465	0.42	24.60			1969	77140
		0.68			63.6	1.490	0.660	NB	0.673	0.51	28.60			1973	86213
		0.68			63.6	1.490	0.658	NB	0.678	0.49	28.10			1973	86213
		3.50			54.8	2.000	1.001	CT	0.944	0.36	20.80			1969	77140
T73510	Extrusion	3.50	R.T.	S-L	54.8	2.000	1.001	CT	0.929	0.32	19.70	20.3	0.8	1969	77140
		4.00			---	3.000	1.479	CT	1.527	---	43.15			1990	SW001
		4.00			---	3.002	1.481	CT	1.539	---	43.85			1990	SW001
		4.00			---	3.002	1.480	CT	1.522	---	42.87			1990	SW001
T73511	Extrusion	4.00	0	L-T	---	3.001	1.485	CT	1.572	---	25.09	25.1	0.4	1990	SW001
		4.00			---	3.004	1.480	CT	1.572	---	25.45			1990	SW001
		4.00			---	3.002	1.483	CT	1.574	---	24.75			1990	SW001
		3.50			66.0	4.000	1.629	CT	1.934	0.80	37.20			1973	85836
T73511	Extrusion	3.50	R.T.	L-T	66.0	4.000	1.998	CT	2.009	1.07	43.30	39.6	3.1	1973	85836
		3.50			66.0	4.000	1.998	CT	1.970	0.95	40.80			1973	85836
		3.50			66.0	4.000	1.998	CT	1.969	0.78	36.90			1973	85836
		3.50			66.0	4.000	1.998	CT	1.969	0.78	36.90			1973	85836

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} ITS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T73511	Extrusion	3.50	R.T.	T-L	66.0	3.500	1.747	CT	1.738	0.44	27.50	26.8	1.1	1973	85836
		3.50			66.0	3.500	1.752	CT	1.855	0.37	25.50			1973	85836
		3.50			66.0	3.500	1.750	CT	1.840	0.43	27.40			1973	85836
T73511	Extrusion	3.50	R.T.	S-L	66.0	2.000	1.002	CT	1.009	0.29	22.60	21.9	1.1	1973	85836
		3.50			66.0	2.000	0.996	CT	0.993	0.25	21.10			1973	85836
T73511	Extrusion	3.17	82	L-T	64.3	1.500	0.749	CT	0.792	0.73	34.80	34.7	0.1	1973	86213
		3.17			64.3	1.500	0.748	CT	0.766	0.72	34.60			1973	86213
T73511	Extrusion	1.25	83	L-T	63.6	3.000	1.213	NB	1.460	0.73	34.30	36.9	2.6	1973	86213
		1.25			63.6	3.000	1.214	NB	1.520	0.76	35.00			1973	86213
		1.25			67.6	3.000	1.220	NB	1.445	0.80	38.20			1973	86213
		1.25			67.6	3.000	1.218	NB	1.485	0.87	39.90			1973	86213
T73511	Extrusion	1.25	83	T-L	62.2	3.000	1.170	NB	1.467	0.61	30.60	32.6	2.6	1973	86213
		1.25			62.2	3.000	1.168	NB	1.437	0.59	30.20			1973	86213
		1.25			66.3	3.000	1.165	NB	1.487	0.70	35.00			1973	86213
		1.25			66.3	3.000	1.170	NB	1.440	0.68	34.70			1973	86213
T73511	Extrusion	3.50	265	T-L	65.0	4.000	2.001	CT	2.065	0.49	28.80	29.0	0.3	1973	86210
		3.50			65.0	4.000	2.002	CT	2.054	0.50	29.20			1973	86210
T73511-HIGH/PURITY	Extruded Bar	1.50	R.T.	L-T	68.6	2.500	1.250	CT	---	1.04	44.20	43.0	1.7	1980	WA001
		1.50			68.6	2.500	1.250	CT	---	0.93	41.80			1980	WA001
T73511-HIGH/PURITY	Extruded Bar	1.50	R.T.	T-L	63.0	2.500	1.250	CT	---	0.57	30.00	30.0	0.1	1980	WA001
		1.50			63.0	2.500	1.250	CT	---	0.56	29.90			1980	WA001

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{Ic}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{ITYS}) ³ (in.)	K _{Ic}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{Ic} (ksi • √in.)	K _{Ic} MEAN	STAN DEV		
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	L-T	65.3	2.500	1.250	CT	---	0.43	27.10	27.3	0.2	1980	WA001
		1.50			65.3	2.500	1.250	CT	---	0.44	27.40			1980	WA001
T73511-LOW/ PURITY	Extruded Bar	1.50	R.T.	T-L	60.9	2.500	1.250	CT	---	0.28	20.50	21.7	1.7	1980	WA001
		1.50			60.9	2.500	1.250	CT	---	0.35	22.90			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	L-T	68.4	2.500	1.250	CT	---	0.49	30.40	30.6	0.2	1980	WA001
		1.50			68.4	2.500	1.250	CT	---	0.50	30.70			1980	WA001
T73511-MEDIUM/ PURITY	Extruded Bar	1.50	R.T.	T-L	62.9	2.500	1.250	CT	---	0.30	21.70	21.9	0.3	1980	WA001
		1.50			62.9	2.500	1.250	CT	---	0.31	22.10			1980	WA001
T7352	Forging	5.00	R.T.	L-T	62.5	3.000	1.502	NB	1.577	1.12	35.10	33.6	3.1	1970	77720
		5.00			62.5	3.000	1.503	NB	1.507	1.00	33.20			1970	77720
		5.00			62.5	3.000	1.499	NB	1.607	1.21	36.50			1970	77720
		6.00			55.4	3.990	2.002	NB	2.160	1.63	39.30			1970	77720
		6.00			55.4	3.990	2.002	NB	2.138	1.67	39.70			1970	77720
		4.00			59.5	3.000	1.500	NB	1.585	0.69	31.20			1970	77720
		4.00			59.5	3.000	1.498	NB	1.610	0.74	32.40			1970	77720
		4.00			59.5	3.000	1.500	NB	1.577	0.84	34.60			1970	77720
		2.00			65.3	1.490	0.751	NB	0.722	0.61	32.20			1970	77720
		2.00			65.3	1.500	0.754	NB	0.747	0.54	30.30			1970	77720
		2.00			65.3	1.500	0.752	NB	0.748	0.59	31.60			1970	77720
		3.00			66.2	1.990	0.998	NB	0.983	0.63	33.10			1970	77720
		3.00			66.2	2.000	1.000	NB	0.983	0.54	30.60			1970	77720
		3.00			66.2	1.990	0.999	NB	0.955	0.53	30.60			1970	77720

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c}) _{TS} ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7352	Forging	6.00	R.T.	T-L	50.3	4.000	2.002	NB	2.118	0.86	27.80	26.6	2.8	1970	77720
		6.00			50.3	4.000	2.003	NB	2.173	0.85	27.60			1970	77720
		5.00			50.7	3.000	1.500	NB	1.553	0.78	28.30			1970	77720
		5.00			50.7	3.000	1.501	NB	1.505	0.72	27.10			1970	77720
		5.00			50.7	3.000	1.500	NB	1.537	0.79	28.60			1970	77720
		4.00			55.2	3.000	1.500	NB	1.702	0.65	28.20			1970	77720
		4.00			55.2	3.000	1.499	NB	1.598	0.57	26.30			1970	77720
		4.00			55.2	3.000	1.499	NB	1.732	0.51	24.90			1970	77720
		---			57.0	2.494	1.252	CT	1.387	0.85	33.20			1975	MA012
		3.00			59.3	1.990	1.000	NB	0.968	0.37	22.80			1970	77720
		3.00			59.3	2.000	1.000	NB	0.992	0.39	23.50			1970	77720
		2.00			65.3	1.500	0.751	NB	0.728	0.33	23.70			1970	77720
2.00	65.3	1.500	0.753	NB	0.750	0.34	24.20	1970	77720						
T7352	Forging	6.00	R.T.	S-T	56.3	1.400	0.700	NB	0.700	0.39	22.00	21.7	0.5	1972	82675
		6.00			56.3	1.400	0.700	NB	0.700	0.36	21.30			1972	82675
T7352	Forging	6.00	R.T.	S-L	49.2	2.000	1.000	CT	0.999	0.88	26.50	21.7	3.2	1970	77720
		6.00			49.2	2.000	1.000	CT	0.997	0.74	24.10			1970	77720
		6.00			49.2	2.000	1.000	CT	1.027	0.79	25.40			1970	77720
		5.00			49.3	1.000	0.500	NB	0.478	0.40	19.60			1970	77720
		5.00			49.3	1.000	0.500	NB	0.493	0.37	19.00			1970	77720
		5.00			49.3	1.000	0.500	NB	0.458	0.34	18.30			1970	77720
		6.00			56.3	1.400	0.700	NB	0.700	0.32	20.10			1972	82675
		6.00			56.3	1.400	0.700	NB	0.700	0.32	20.20			1972	82675
		6.00			49.2	2.000	1.000	CT	0.999	0.88	26.50			1970	77720
		6.00			49.2	2.000	1.000	CT	0.997	0.74	24.10			1970	77720

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS)* (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) • √(in.)	K _{1c} MEAN	STAN DEV		
T7352	Extrusion	7.04	84	T-L	54.6	2.000	0.997	CT	1.005	0.33	19.70	19.5	0.2	1973	86213
		4.65			58.9	2.000	1.000	CT	1.006	0.28	19.60			1973	86213
		4.65			58.9	2.000	0.999	CT	0.990	0.27	19.30			1973	86213
T7352	Extrusion	7.04	84	S-L	48.6	2.000	1.000	CT	0.968	0.37	18.70	19.0	1.3	1973	86213
		7.04			48.6	2.000	0.999	CT	0.966	0.35	18.30			1973	86213
		4.65			53.5	2.000	0.998	CT	0.934	0.28	18.00			1973	86213
		4.65			53.5	2.000	0.998	CT	1.020	0.38	20.90			1973	86213
T7352	Billet	2.35	R.T.	L-T	54.5	2.500	1.251	CT	1.212	0.85	31.80	---	---	1974	MA011
T73652	Forging	6.00	R.T.	L-T	70.0	4.000	2.001	CT	2.075	0.60	34.40	35.0	1.8	1973	85836
		6.00			70.0	4.000	2.005	CT	1.985	0.57	33.50			1973	85836
		6.00			70.0	4.000	2.005	CT	1.960	0.70	37.00			1973	85836
T73652	Forging	6.00	R.T.	T-L	67.0	3.500	1.745	CT	1.786	0.43	27.80	26.6	2.7	1973	85836
		6.00			67.0	3.500	1.745	CT	1.825	0.45	28.50			1973	85836
		6.00			67.0	3.500	1.746	CT	1.764	0.31	23.50			1973	85836
T73652	Forging	6.00	R.T.	S-L	57.0	2.000	1.003	CT	1.029	0.46	24.60	---	---	1973	85836
T7651	Plate	2.00	R.T.	L-T	62.4	4.000	1.989	CT	2.124	0.53	28.60	28.5	1.5	1973	86213
		2.00			62.4	3.967	1.981	CT	2.142	0.44	26.40			1978	MPC01
		2.00			62.4	4.000	1.987	CT	2.126	0.48	27.30			1973	86213
		2.00			62.4	4.011	1.987	CT	2.126	0.46	27.30			1978	MPC01
		2.00			62.4	4.008	1.989	CT	2.124	0.50	28.60			1978	MPC01
		2.00			62.4	4.000	1.981	CT	2.142	0.45	26.40			1973	86213
		2.00			62.9	4.000	1.959	CT	2.204	0.55	29.60			1973	86213
		2.00			62.9	4.000	1.961	CT	2.204	0.55	29.60			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^{1/2} (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	L-T Cont'd	63.0	2.000	0.751	CT	1.027	0.47	27.50	Cont'd	Cont'd	1972	84306
		2.00			63.0	2.000	0.755	CT	1.040	0.48	27.70			1972	84306
		2.00			63.0	2.000	0.753	CT	1.046	0.50	28.40			1972	84306
		2.30			64.0	2.500	1.245	CT	1.293	0.52	29.20			1973	85836
		2.00			64.7	3.000	0.805	CT	1.534	0.41	26.20			1973	86213
		2.00			64.7	2.000	0.827	CT	1.045	0.48	28.40			1973	86213
		2.00			64.7	2.000	0.828	CT	1.028	0.49	28.70			1973	86213
		2.00			64.7	2.000	0.820	CT	1.020	0.47	28.20			1973	86213
		2.30			65.0	2.500	1.245	CT	1.290	0.53	30.10			1973	85836
		2.30			65.0	2.500	1.244	CT	1.280	0.52	30.00			1973	85836
		2.50			66.0	2.500	1.253	CT	1.280	0.55	30.90			1973	85836
		2.50			66.0	2.500	1.254	CT	1.277	0.56	31.30			1973	85836
		2.50			66.0	2.500	1.257	CT	1.296	0.54	30.70			1973	85836
		2.00			68.2	1.986	0.900	CT	1.112	0.40	27.40			1978	MPC01
		2.00			68.2	1.995	0.901	CT	1.137	0.40	27.40			1978	MPC01
		2.00			68.7	3.004	1.000	CT	1.592	0.48	30.60			1978	MPC01
T7651	Plate	2.00	R.T.	T-L	69.2	2.005	0.901	CT	1.123	0.36	26.90	23.1	2.0	1978	MPC01
		2.00			61.2	3.017	0.802	CT	1.569	0.34	22.80			1978	MPC01
		2.00			61.3	2.971	0.801	CT	1.545	0.32	22.30			1978	MPC01
		2.60			62.0	1.500	0.500	CT	---	0.51	28.00			1974	90011
		2.00			62.0	4.000	1.992	CT	2.169	0.40	24.80			1973	86213
		2.00			62.0	4.017	1.992	CT	2.169	0.40	24.80			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.60	R.T. Cont'd	T-L Cont'd	62.0	1.500	0.500	CT	---	0.44	26.00	Cont'd	Cont'd	1974	90011
		2.00			62.6	2.990	0.798	CT	1.555	0.30	22.40			1978	MPC01
		2.00			62.6	3.026	0.800	CT	1.513	0.30	22.10			1978	MPC01
		2.00			62.8	2.992	0.800	CT	1.526	0.30	22.40			1978	MPC01
		1.75			63.8	4.000	1.755	NB	2.120	0.34	23.40			1973	86213
		1.50			64.0	3.022	1.403	CT	1.632	0.34	23.90			1978	MPC01
		2.00			64.0	2.000	0.754	CT	1.013	0.32	22.80			1972	84306
		2.00			64.0	2.000	0.754	CT	1.023	0.35	24.00			1972	84306
		2.00			64.1	4.000	1.959	CT	2.219	0.38	25.00			1973	86213
		2.00			64.1	4.035	1.959	CT	2.219	0.38	25.60			1978	MPC01
		2.00			64.1	4.035	1.961	CT	2.219	0.38	25.50			1978	MPC01
		2.00			64.1	4.000	1.961	CT	2.219	0.40	25.50			1973	86213
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00			1974	90011
		2.30			65.0	2.500	1.250	CT	---	0.31	23.00			1974	90011
		0.75			65.6	2.992	0.763	CT	1.496	0.25	21.30			1978	MPC01
		2.00			66.0	3.000	0.803	CT	1.558	0.28	22.00			1972	84306
		2.00			66.0	3.000	0.806	CT	1.549	0.29	22.20			1972	84306
		2.00			66.0	2.000	0.811	CT	1.054	0.27	21.50			1972	84306
		2.50			66.0	2.500	1.255	CT	1.293	0.34	24.30			1973	85836
		2.00			66.0	2.000	0.810	CT	1.047	0.23	19.90			1972	84306
		2.50			66.0	2.500	1.255	CT	1.276	0.31	23.30			1973	85836
		2.00			66.0	2.000	0.809	CT	1.074	0.27	21.70			1972	84306

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /ITS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	0.56	R.T. Cont'd	T-L Cont'd	67.0	1.490	0.506	CT	0.831	0.42	27.60	Cont'd	Cont'd	1972	84306
		0.56			67.0	1.490	0.507	CT	0.836	0.37	25.70			1972	84306
		2.00			67.2	1.004	0.499	CT	0.502	0.28	23.50			1978	MPC01
		2.00			67.2	1.008	0.500	CT	0.494	0.32	24.60			1978	MPC01
		2.00			67.4	0.998	0.500	CT	0.479	0.21	20.10			1978	MPC01
		2.00			67.4	1.494	0.749	CT	0.717	0.24	21.10			1978	MPC01
		2.00			67.4	3.982	1.997	CT	2.190	0.24	21.40			1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.24	21.30			1978	MPC01
		2.00			67.4	1.496	0.750	CT	0.733	0.22	20.80			1978	MPC01
		2.00			67.4	3.007	1.500	CT	1.654	0.25	22.20			1978	MPC01
		2.00			67.4	1.515	0.749	CT	0.727	0.22	20.30			1978	MPC01
		2.00			67.4	1.013	0.500	CT	0.476	0.21	20.00			1978	MPC01
		2.00			67.4	1.002	0.500	CT	0.481	0.21	20.20			1978	MPC01
		2.00			67.6	3.973	1.994	CT	2.066	0.24	21.00			1978	MPC01
		1.00			67.6	3.021	1.005	CT	1.571	0.34	25.20			1978	MPC01
		1.00			67.6	3.017	1.004	CT	1.569	0.34	25.40			1978	MPC01
T7651	Plate	2.00	R.T.	S-L	68.7	3.020	1.000	CT	1.631	0.28	23.80	17.8	1.5	1978	MPC01
		1.00			70.1	1.994	0.976	CT	1.057	0.22	21.30			1978	MPC01
		2.00			59.1	...	0.761	CT	0.730	0.25	19.00			1978	MPC01
		1.75			61.8	1.010	0.500	CT	0.485	0.19	17.60			1978	MPC01
		1.75			61.8	0.992	0.500	CT	0.496	0.18	17.00			1978	MPC01
		1.75			61.8	1.006	0.500	CT	0.493	0.19	17.50			1978	MPC01

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}																	
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} TYS) ^a (in.)	K _{1c}			DATE	REFER		
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV				
T7651 Cont'd	Plate Cont'd	2.00	R.T. Cont'd	S-L Cont'd	64.1	1.010	0.500	CT	0.485	0.15	16.20	Cont'd	Cont'd	1978	MPC01		
		2.00			64.1	1.004	0.500	CT	0.492	0.15	16.30			1978	MPC01		
		2.00			64.1	1.006	0.498	CT	0.493	0.14	15.40			1978	MPC01		
		2.00			64.2	1.498	0.749	CT	0.764	0.21	18.80			1978	MPC01		
		2.00			64.2	1.506	0.749	CT	0.768	0.19	18.10			1978	MPC01		
		2.00			64.2	1.492	0.749	CT	0.776	0.19	18.20			1978	MPC01		
		2.00			65.0	1.000	0.378	CT	0.447	0.14	15.20			1972	84306		
		2.00			65.0	1.000	0.378	CT	0.450	0.17	17.10			1972	84306		
		2.30			70.0	1.490	0.750	CT	0.758	0.19	19.40			1973	86210		
		2.50			70.0	1.500	0.751	CT	0.766	0.20	19.60			1973	86210		
		2.50			70.0	1.490	0.749	CT	0.774	0.20	19.80			1973	86210		
		2.30			70.0	1.500	0.751	CT	0.768	0.20	19.90			1973	86210		
T7651	Plate	0.50	82	L-T	62.2	1.000	0.490	CT	0.519	0.46	26.80	26.6	0.6	1973	86213		
		0.50			62.2	1.000	0.490	CT	0.514	0.47	26.90			1973	86213		
		0.50			62.2	1.000	0.492	CT	0.523	0.42	25.60			1973	86213		
		0.50			67.2	1.000	0.486	CT	0.522	0.37	25.70			1973	86213		
		0.50			67.2	1.000	0.487	CT	0.531	0.38	26.30			1973	86213		
		1.00			67.7	2.000	0.993	CT	1.072	0.36	25.80			1973	86213		
		1.00			67.7	2.000	0.993	CT	1.052	0.37	26.20			1973	86213		
		1.00			67.7	2.000	0.993	CT	1.036	0.37	26.00			1973	86213		
		1.00			68.8	2.000	1.001	CT	1.083	0.39	27.10			1973	86213		
		1.00			68.8	2.000	1.001	CT	1.047	0.38	26.90			1973	86213		
								CT									

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K ₀₁)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K ₀₁ /T ₉₈) ² (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K ₀₁ • √(in.)	K ₀₁ MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	1.00	82 Cont'd	L-T Cont'd	68.8	2.000	1.001	CT	1.045	0.39	27.20	Cont'd	Cont'd	1973	86213
		1.00			68.9	2.000	1.001	CT	1.093	0.38	27.00			1973	86213
		1.00			68.9	2.000	1.001	CT	1.104	0.40	27.60			1973	86213
		1.00			68.9	2.000	1.001	CT	1.035	0.38	26.80			1973	86213
		1.00	82	T-L	65.6	2.000	0.993	CT	1.020	0.28	21.90	23.8	1.4	1973	86213
		1.00			65.6	2.000	0.992	CT	1.048	0.27	21.60			1973	86213
		1.00			65.6	2.000	0.992	CT	1.063	0.28	21.90			1973	86213
		0.50			66.4	1.000	0.493	CT	0.510	0.39	26.10			1973	86213
		0.50			66.4	1.000	0.493	CT	0.511	0.34	24.50			1973	86213
		0.50			66.4	1.000	0.492	CT	0.504	0.37	25.50			1973	86213
		0.50			67.3	1.000	0.485	CT	0.515	0.34	24.70			1973	86213
		0.50			67.3	1.000	0.487	CT	0.513	0.34	25.00			1973	86213
		0.50			67.3	1.000	0.485	CT	0.502	0.35	25.20			1973	86213
		1.00			67.6	2.000	1.001	CT	1.003	0.31	23.70			1973	86213
		1.00			67.6	2.000	1.000	CT	1.020	0.31	23.80			1973	86213
		1.00			67.6	2.000	1.001	CT	1.013	0.31	23.70			1973	86213
		1.00	82	S-L	68.4	2.000	1.002	CT	0.990	0.27	22.50	19.4	0.6	1973	86213
		1.00			68.4	2.000	1.001	CT	1.018	0.30	23.70			1973	86213
		1.00			68.4	2.000	1.001	CT	1.001	0.30	23.60			1973	86213
		2.00			59.1	1.500	0.750	CT	0.742	0.28	19.70			1973	86213
T7651	Plate	2.00	82	S-L	59.1	1.500	0.750	CT	0.737	0.26	19.10	19.4	0.6	1973	86213
		2.00			59.4	1.500	0.751	CT	0.794	0.30	20.60			1973	86213
		2.00													

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5° (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi) • √(in.)	K _{1c} MEAN	STAN DEV		
T7651 Cont'd	Plate Cont'd	2.00	82 Cont'd	S-L Cont'd	59.4	1.500	0.751	CT	0.788	0.28	20.00	Cont'd	Cont'd	1973	86213
		2.00			59.8	1.500	0.751	CT	0.744	0.25	18.90			1973	86213
		2.00			59.8	1.500	0.751	CT	0.732	0.26	19.20			1973	86213
		2.00			59.8	1.500	0.751	CT	0.738	0.25	18.90			1973	86213
		2.00			60.9	1.500	0.751	CT	0.730	0.24	18.80			1973	86213
		2.00			60.9	1.500	0.751	CT	0.731	0.25	19.30			1973	86213
		2.00			60.9	1.500	0.751	CT	0.743	0.26	19.50			1973	86213
		0.50			66.8	1.000	0.496	CT	0.498	0.37	25.60			1973	86213
		0.50			66.8	1.000	0.496	CT	0.506	0.35	25.10			1973	86213
		2.00			67.6	4.000	1.992	CT	2.063	0.35	25.20			1973	86213
T7651	Plate	2.00	84	L-T	67.6	4.000	1.992	CT	2.041	0.33	24.40	26.1	1.5	1973	86213
		2.00			67.6	4.000	1.993	CT	2.082	0.34	24.90			1973	86213
		1.00			68.8	3.000	1.005	CT	1.575	0.43	28.50			1973	86213
		1.00			68.8	3.000	1.005	CT	1.584	0.34	28.30			1973	86213
		2.00			69.0	2.000	0.999	CT	1.034	0.36	26.30			1973	86213
		2.00			69.0	2.000	0.999	CT	1.036	0.38	26.90			1973	86213
		0.50			67.0	1.000	0.496	CT	0.492	0.29	22.70			1973	86213
		0.50			67.0	1.000	0.496	CT	0.495	0.28	22.40			1973	86213
		0.50			67.0	1.000	0.496	CT	0.494	0.28	22.60			1973	86213
		2.00			67.4	2.000	0.999	CT	1.015	0.26	21.70			1973	86213
T7651	Plate	1.00	84	T-L	67.6	3.000	1.005	CT	1.571	0.35	25.20	23.3	1.6	1973	86213
		1.00			67.6	3.000	1.005	CT	1.571	0.35	25.20			1973	86213
		1.00			67.6	3.000	1.004	CT	1.569	0.35	25.40			1973	86213

TABLE 8.9.2.1 (CONTINUED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	3.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T7651	Plate	1.00	88	L-T	72.2	2.000	0.999	CT	1.023	0.31	25.30	25.3	0.2	1973	86213
		1.00			72.2	2.000	1.000	CT	1.047	0.31	25.50			1973	86213
		1.00			72.2	2.000	1.000	CT	1.041	0.30	25.20			1973	86213
T7651	Plate	1.00	88	T-L	70.0	2.000	1.001	CT	1.000	0.23	21.40	21.5	0.2	1973	86213
		1.00			70.0	2.000	1.002	CT	1.011	0.23	21.40			1973	86213
		1.00			70.0	2.000	1.004	CT	1.003	0.24	21.70			1973	86213
T7651	Plate	2.50	265	T-L	66.0	2.500	1.254	CT	1.281	0.37	25.40	26.0	0.8	1973	85836
		2.50			66.0	2.500	1.255	CT	1.288	0.40	26.50			1973	85836
		2.00			66.0	4.990	2.019	CT	2.757	1.09	43.60			1973	86213
T7651 (SP)	Plate	2.00	82	L-T	66.0	4.990	1.498	CT	2.699	1.05	42.70	42.1	1.4	1973	86213
		2.00			66.0	4.000	2.019	CT	2.120	0.97	41.20			1973	86213
		2.00			66.0	4.000	2.021	CT	2.122	0.93	40.20			1973	86213
		2.00			66.0	5.000	1.496	CT	2.610	1.09	43.60			1973	86213
		2.00			66.0	2.000	0.999	CT	1.024	0.96	41.00			1973	86213
		2.00			66.0	3.000	0.998	CT	1.503	0.79	37.20			1973	86213
T7651 (SP)	Plate	2.00	84	L-T	66.0	3.000	1.500	CT	1.578	1.05	42.80	39.0	3.4	1973	86213
		2.00			66.0	3.000	1.000	CT	1.503	0.71	35.20			1973	86213
		2.00			66.0	3.000	1.500	CT	1.568	0.96	40.80			1973	86213

TABLE 8.9.2.1 (CONCLUDED)

ALUMINUM 7075 K _{1c}															
CONDITION	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN			CRACK LENGTH (in.) A	2.5 • (K _{1c} /TYS) ^a (in.)	K _{1c}			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	DESIGN			K _{1c} (Ksi • √in.)	K _{1c} MEAN	STAN DEV		
T76511	Extrusion	7.04	R.T.	L-T	70.0	2.490	1.169	CT	1.298	0.54	32.50	35.7	4.4	1973	86210
		7.04			70.0	2.490	1.254	CT	1.298	0.65	34.80			1973	86210
		1.44			73.0	3.000	1.401	CT	1.556	0.48	32.10			1973	86213
		1.44			73.0	3.000	1.400	CT	1.574	0.49	32.40			1973	86213
		7.04			73.5	4.000	1.502	CT	---	0.79	41.30			1973	91123
		2.50			73.5	---	1.700	CT	1.950	0.79	41.30			1973	86212
T76511	Extrusion	7.04	R.T.	T-L	70.0	2.500	1.253	CT	1.299	0.23	21.20	23.6	2.8	1973	86210
		7.04			70.0	2.500	1.254	CT	1.300	0.23	21.10			1973	86210
		1.44			70.7	3.000	1.400	CT	1.516	0.33	25.70			1973	86213
		1.44			70.7	3.000	1.401	CT	1.565	0.34	26.20			1973	86213
T76511	Extrusion	1.25	83	L-T	66.5	3.000	1.215	NB	1.477	0.64	33.70	35.2	3.3	1973	86213
		1.25			66.5	3.000	1.212	NB	1.528	0.59	32.30			1973	86213
		1.25			67.8	3.000	1.220	NB	1.502	0.65	34.70			1973	86213
		1.25			67.8	3.000	1.217	NB	1.495	0.87	39.90			1973	86213
T76511	Extrusion	1.25	83	T-L	64.4	3.000	1.170	NB	1.437	0.54	29.80	32.7	3.8	1973	86213
		1.25			64.4	3.000	1.166	NB	1.450	0.50	28.90			1973	86213
		1.25			66.0	3.000	1.170	NB	1.485	0.76	36.40			1973	86213
		1.25			66.0	3.000	1.170	NB	1.467	0.72	35.50			1973	86213
T76511	Extrusion	1.44	84	S-L	65.7	2.000	0.821	CT	0.991	0.26	21.30	21.5	0.3	1973	86213
		1.44			65.7	2.000	0.822	CT	0.994	0.27	21.70			1973	86213
T76511	Extrusion	2.00	86	L-T	69.4	4.000	1.961	CT	2.079	0.50	31.10	---	---	1973	86213

TABLE 8.9.2.2

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ALUMINUM 7075 K _C																					
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER		
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV				
BUCKLING OF CRACK EDGES RESTRAINED																					
T6	Sheet	0.10	R.T.	L-T	75.9	1.500	0.100	0.500	0.570	--	44.90	42.76*	--	--	46.72*	--	--	1962	62306		
	Sheet	0.10	R.T.	L-T	75.9	3.500	0.100	0.500	0.760	--	53.70	48.20*	--	--	60.44*	--	--	1962	62306		
0.10		75.9			3.500	0.100	0.770	1.140	--	46.40	52.61	--	--	66.49*	--	--	1962	62306			
T6	Sheet	0.10	R.T.	L-T	75.9	6.000	0.100	2.000	2.450	--	33.50	63.81	--	--	73.42	--	--	1962	62306		
T6	Sheet	0.09	R.T.	L-T	75.9	12.000	0.090	1.040	1.460	--	46.60	59.84	64.6			71.22	71.9			1969	75599
		0.09			75.9	12.000	0.090	2.340	2.860	--	33.70	66.17				74.04				1969	75599
		0.09			75.9	12.000	0.090	1.060	1.560	--	44.80	58.09				70.87				1969	75599
		0.09			75.9	12.000	0.090	1.400	1.860	--	43.60	65.20				75.65				1969	75599
		0.09			75.9	12.000	0.090	3.880	4.720	15.30	25.20	66.55				76.00				1969	75599
		0.09			75.9	12.000	0.090	2.800	3.460	--	29.90	64.90				73.61				1969	75599
		0.09			75.9	12.000	0.090	1.100	1.440	--	44.00	58.14				66.77				1969	75599
		0.09			75.9	12.000	0.090	1.560	1.880	--	41.20	65.17				71.89	2.8			1969	75599
		0.09			75.9	12.000	0.090	4.500	5.460	11.40	22.50	65.60				75.82				1969	75599
		0.09			75.9	12.000	0.090	1.080	1.420	--	46.10	60.35				69.45				1969	75599
		0.09			75.9	12.000	0.090	1.820	1.920	--	40.00	68.61				70.68				1969	75599
		0.09			75.9	12.000	0.090	3.180	3.600	--	28.20	65.90				71.04				1969	75599
		0.09			75.9	12.000	0.090	3.060	3.580	--	28.20	64.43				70.80				1969	75599
		0.09			75.9	12.000	0.090	2.040	2.320	--	35.60	64.89				69.67				1969	75599
		0.09			75.9	12.000	0.090	2.620	3.500	--	29.60	61.88				73.29				1969	75599

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _s	MAX (Ksi) σ _u	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.09	R.T. Cont'd	L-T Cont'd	75.9	12.000	0.090	2.100	2.300	---	34.90	64.61	Cont'd	Cont'd	Cont'd	67.88	Cont'd	1969	75599
		0.09			75.9	12.000	0.090	4.940	5.620	13.00	21.10	65.79				72.81		1969	75599
		0.09			75.9	12.000	0.090	3.440	3.700	21.70	27.70	67.86				70.99		1969	75599
		0.09			75.9	12.000	0.090	3.800	4.380	14.50	23.20	60.46				66.39		1969	75599
		0.09			75.9	12.000	0.090	3.560	4.260	13.70	25.10	62.80				70.49		1969	75599
		0.09			75.9	12.000	0.090	2.140	2.400	27.80	36.10	67.52				71.87		1969	75599
		0.09			75.9	12.000	0.090	2.240	2.740	27.80	33.30	63.84				71.39		1969	75599
		0.09			75.9	12.000	0.090	3.520	4.200	17.00	28.00	69.57				77.89		1969	75599
		0.09			75.9	12.000	0.090	1.960	2.380	---	35.90	64.05				71.15		1969	75599
		0.09			75.9	12.000	0.090	2.020	2.180	---	38.60	69.98				72.92		1969	75599
T6	Sheet	0.09	R.T.	L-T	75.9	12.000	0.090	2.440	3.060	---	33.20	66.71	---	---	---	75.85	---	1969	75599
		0.09			75.9	12.000	0.100	1.980	2.530	---	35.80	64.22				73.39		1969	75599
T6	Sheet	0.10	R.T.	L-T	75.9	24.000	0.100	1.990	2.360	---	37.00	65.70	67.2	2.2	71.5	71.67	0.2	1962	62306
		0.10			75.9	24.000	0.100	18.00	18.340	---	8.00	68.76				71.36		1962	62306
T6	Sheet	0.10	R.T.	L-T	75.9	36.000	0.100	18.00	19.100	---	11.50	72.72	64.9	9.6	72.8	76.82	6.1	1962	62306
		0.10			75.9	36.000	0.100	1.080	1.580	---	45.80	59.69				72.24		1962	62306
		0.10			75.9	36.000	0.100	9.930	11.180	---	17.50	72.55				78.03		1962	62306
		0.10			75.9	36.000	0.100	0.500	0.770	---	57.00	50.52				62.71		1962	62306
		0.10			75.9	36.000	0.100	4.000	4.630	---	27.30	68.96				74.38		1962	62306

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T6	Sheet	0.10	R.T.	L-T	75.9	48.000	0.100	1.960	2.350	---	35.40	62.18	---	---	68.11	---	---	1962	62306
T6	Plate	0.25	R.T.	L-T	76.2	15.030	0.246	7.500	8.500	---	16.60	67.70	---	---	76.38	---	---	1965	62310
		0.25			76.2	15.060	0.246	7.500	8.500	---	16.70	68.06	67.9	0.3	76.75	76.6	0.3	1965	62310
T6	Sheet	0.06	R.T.	T-L	75.5	3.030	0.063	0.830	---	---	44.51	53.31*	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	4.500	0.063	1.230	---	---	38.20	55.68	---	---	---	---	---	1966	86734
		0.06			75.5	4.500	0.063	1.130	---	---	38.20	52.97	54.3	1.9	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	6.000	0.064	1.700	---	---	33.00	56.76	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	7.000	0.061	3.120	---	---	23.40	59.24	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	8.000	0.061	3.440	---	---	23.90	62.89	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	10.000	0.061	3.260	---	---	28.10	68.11	---	---	---	---	---	1966	86734
		0.06			75.5	10.000	0.064	2.500	---	---	30.00	61.85	65.0	4.4	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	12.000	0.061	3.000	---	---	26.60	60.08	---	---	---	---	---	1966	86734
		0.06			75.5	12.000	0.064	3.500	---	---	25.15	62.27	61.2	1.5	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	15.000	0.063	4.000	---	---	24.30	63.73	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	16.000	0.061	3.400	---	---	28.00	66.67	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	18.000	0.064	5.500	---	---	21.05	65.69	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	20.000	0.061	3.600	---	---	27.10	65.76	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	21.000	0.064	6.250	---	---	20.30	67.32	---	---	---	---	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	22.000	0.061	3.520	---	---	27.30	65.23	---	---	---	---	---	1966	86734

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a ₀	FINAL (in.) 2a _c	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{max} (Ksi√in)	K _{max} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES RESTRAINED																			
T6	Sheet	0.06	R.T.	T-L	75.5	24,000	0.061	8,000	8,680	---	20.10	76.57	69.5	7.4	80.84	73.4	8.2	1966	86734
		0.06			75.5	24,000	0.061	8,000	8,660	---	16.80	64.00			67.46			1966	86734
		0.06			75.5	24,000	0.061	8,000	8,500	---	21.90	83.42			86.84			1966	86734
		0.06			75.5	24,000	0.062	8,000	8,360	---	18.40	70.09			72.15			1966	86734
		0.06			75.5	24,000	0.063	8,000	9,200	---	19.70	75.04			82.49			1966	86734
		0.06			75.5	24,000	0.064	8,000	8,700	---	17.60	67.04			70.90			1966	86734
		0.06			75.5	24,000	0.064	6,000	---	---	17.55	---			---			1966	86734
		0.06			75.5	24,000	0.064	6,002	---	---	20.00	---			---			1966	86734
		0.06			75.5	24,000	0.064	8,000	8,640	---	15.90	60.57			63.75			1966	86734
		0.06			75.5	24,000	0.064	8,000	8,900	---	18.90	72.00			77.33			1966	86734
		0.06			75.5	24,000	0.064	8,000	8,620	---	17.30	65.90			69.25			1966	86734
		0.06			75.5	24,000	0.064	8,000	8,540	---	15.80	60.19			62.85			1966	86734
		0.06			75.5	24,000	0.064	6,000	---	---	20.00	---			---			1966	86734
		BUCKLING OF CRACK EDGES NOT RESTRAINED																	
T6	Sheet	0.08	-320	L-T	85.0	12,000	0.078	1,500	---	---	22.74	35.25	34.8	0.4	---	---	---	1966	86734
		0.08			85.0	12,000	0.078	2,400	---	---	17.45	34.74			---			1966	86734
		0.08			85.0	12,000	0.078	4,000	---	---	12.76	34.37			---			1966	86734
T6	Sheet	0.06	R.T.	L-T	73.0	2,000	0.061	0.625	1.080	---	46.30	48.80*	---	---	74.16*	---	---	1973	86213
		0.06			73.0	2,000	0.061	0.625	1.060	---	46.30	48.80*			72.83*			1973	86213
		0.06			73.0	2,000	0.061	0.625	1.080	---	45.90	48.38*			73.52*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 90% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _e	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	L-T Cont'd	75.6	2.000	0.062	0.618	0.890	---	43.20	45.26*	Cont'd	Cont'd	57.86*	Cont'd	Cont'd	1973	86213
		0.06			75.6	2.000	0.062	0.622	0.870	---	44.40	46.70*			58.94*			1973	86213
		0.06			75.6	2.000	0.062	0.621	0.900	---	43.60	45.77*			59.46*			1973	86213
		0.06			75.2	2.000	0.063	0.622	0.750	---	46.70	49.12*			55.59*			1973	86213
		0.06			75.2	2.000	0.063	0.621	0.820	---	46.60	48.92*			59.14*			1973	86213
		0.06			73.0	2.000	0.064	0.625	0.800	---	44.20	46.59*			55.09*			1973	86213
		0.06			74.6	2.000	0.064	0.623	0.840	---	47.30	49.76*			61.12*			1973	86213
		0.06			74.6	2.000	0.064	0.622	0.830	---	50.00	52.59*			64.03*			1973	86213
		0.06			74.6	2.000	0.064	0.622	0.780	---	48.60	51.12*			59.47*			1973	86213
		0.06			76.1	2.000	0.064	0.624	0.850	---	43.90	46.27*			57.24*			1973	86213
		0.06			76.1	2.000	0.064	0.624	0.880	---	44.00	46.38*			58.93*			1973	86213
		0.06			72.8	2.000	0.065	0.626	0.890	---	44.50	47.00*			60.14*			1973	86213
		0.06			72.8	2.000	0.065	0.626	0.890	---	43.60	46.05*			58.92*			1973	86213
		0.06			74.6	2.000	0.065	0.626	0.820	---	48.30	51.01*			61.30*			1973	86213
		0.12			73.2	3.000	0.123	1.060	1.560	---	37.80	52.91			71.52*			1973	86213
		T6			Sheet	0.12	R.T.	L-T	73.2	3.000	0.123	1.000			1.520			---	40.20	54.14*	53.7	1.3	74.26*	---	---	1973	86213
0.12	73.2		3.000	0.123		1.060			1.550	---	37.00	51.79	69.59*	1973	86213				
0.12	76.6		3.000	0.123		1.000			1.490	---	40.60	54.68	73.67*	1973	86213				
0.12	76.6		3.000	0.123		1.000			1.490	---	40.50	54.54	73.49*	1973	86213				

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _e	MAX (Ksi) σ _{max}	K _{app} (Ksi√in.)	K _{app} MEAN	STAN DEV	K _C (Ksi√in.)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.12	R.T.	L-T Cont'd	76.6	3.000	0.123	1.000	1.360	---	40.70	54.81	Cont'd	Cont'd	68.37*	Cont'd	Cont'd	1973	86213
		0.12	Cont'd		76.6	3.000	0.123	1.000	1.530	---	41.00	55.22*			76.19*			1973	86213
T6	Sheet	0.12	R.T.	L-T	78.2	3.000	0.129	1.140	1.460	---	34.10	50.18	50.1	0.1	60.78*	---	---	1973	86213
		0.12	78.2		3.000	0.129	1.160	1.460	---	33.60	50.05	59.89*			1973			86213	
T6	Sheet	0.12	R.T.	L-T	75.8	4.000	0.125	1.607	2.590	---	34.30	60.62	61.1	0.7	95.41*	---	---	1973	86213
		0.12	76.3		4.000	0.125	1.578	2.487	---	35.30	61.60	93.20*			1973			86213	
T6	Sheet	0.04	R.T.	L-T	69.0	6.000	0.039	0.500	---	---	55.10	49.04*	49.4	6.3	---	---	---	1966	86734
		69.0			6.000	0.039	0.850	---	---	46.40	54.29	---			1966			86734	
		70.0			6.000	0.040	0.740	---	---	50.40	54.85*	---			1966			86734	
		70.0			6.000	0.040	0.820	---	---	46.40	53.28	---			1966			86734	
		70.0			6.000	0.040	0.920	---	---	44.20	53.92	---			1966			86734	
		70.0			6.000	0.040	2.560	---	---	17.79	40.30	---			1966			86734	
		70.0			6.000	0.040	0.500	---	---	50.80	45.21	---			1966			86734	
		78.6			15.000	0.161	7.500	---	---	12.30	50.21	---			1966			86734	
T6	Sheet	0.16	R.T.	L-T	78.6	15.000	0.163	7.500	---	---	11.10	45.31	47.8	3.5	---	---	---	1966	86734
		0.16	78.6		15.000	0.163	7.500	---	---	27.60	61.39	67.23			1973			86213	
T6	Sheet	0.06	R.T.	L-T	75.7	15.810	0.063	3.010	3.550	---	16.80	56.56	59.1	2.7	57.96	65.7	5.0	1973	86213
		75.7			15.810	0.063	5.980	6.190	---	23.90	62.48	66.55			1973			86213	
		75.7			15.820	0.063	4.010	4.460	---	46.50	58.42	71.78			1973			86213	
		75.7			15.820	0.063	1.000	1.500	---	16.80	56.69	64.72			1973			86213	
		75.7			15.820	0.063	6.000	7.160	---	16.80	56.69	64.72			1973			86213	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in.)	K _{app} MEAN	STAN DEV	K _C (Ksi√in.)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.08	R.T.	L-T	76.1	29.940	0.078	15.00	---	---	13.10	75.68	74.8	1.3	---	---	---	1966	86734
		0.08				30.020	0.079	15.00	---	---	12.80	73.87			---	---	---	1966	86734
T6	Sheet	0.10	R.T.	L-T	74.0	35.000	0.102	18.00	---	---	12.00	76.76	67.5	6.3	---	---	---	1966	84367
		0.10				35.000	0.102	17.90	---	---	9.80	62.36			---	---	---	1966	84367
		0.10				35.000	0.102	8.900	---	---	15.30	59.60			---	---	---	1966	84367
		0.10				35.000	0.102	1.270	---	---	46.20	65.31			---	---	---	1966	84367
		0.10				35.000	0.102	2.530	---	---	35.60	71.20			---	---	---	1966	84367
		0.10				35.000	0.102	6.000	---	---	22.30	69.73			---	---	---	1966	84367
T6	Plate	0.50	R.T.	L-T	73.5	15.020	0.518	7.500	9.920	---	13.20	53.85	53.1	1.1	73.08	---	1965	62310	
		0.50				14.930	0.521	7.500	7.920	---	12.80	52.34			55.06	64.1	12.7	1965	62310
T6	Forging	0.16	R.T.	L-T	62.0	7.500	0.155	0.750	---	---	38.60	42.16	58.6	14.5	---	---	---	1966	86734
		0.16				7.500	0.156	2.400	---	---	33.60	69.69			---	---	---	1966	86734
		0.16				7.500	0.157	1.790	---	---	36.80	63.97			---	---	---	1966	86734
		0.16				7.500	0.158	2.680	---	---	37.30	83.18*			---	---	---	1966	86734
T6	Extru- -sion	0.12	R.T.	L-T	80.1	16.000	0.125	4.840	5.140	---	20.10	58.77	58.4	0.9	61.04	---	1962	62309	
		0.12				16.010	0.126	4.800	4.980	---	19.70	57.30			58.64	60.2	1.4	1962	62309
		0.12				16.010	0.126	4.840	5.100	---	20.20	59.06			61.04	---	---	1962	62309

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _y	MAX (Ksi) σ _{max}	K _{app} (Ksi√in) K _{app}	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV				
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T6	Extru- sion	0.25	R.T.	L-T	77.2	16.010	0.251	4.800	5.500	--	19.20	55.85	56.0	0.1		60.93	59.9	1.4	1962	62309
		0.25			77.2	16.020	0.251	4.790	5.180	--	19.30	56.06				58.90			1962	62309
		0.06			71.8	2.000	0.061	0.625	1.040	--	42.80	45.11*				66.12*			1973	86213
		0.06			71.8	2.000	0.061	0.625	1.000	--	43.00	45.32*				64.09*			1973	86213
		0.06			71.8	2.000	0.061	0.625	1.000	--	44.30	46.69*				66.03*			1973	86213
		0.06			73.1	2.000	0.063	0.625	0.880	--	41.10	43.32*				55.05*			1973	86213
		0.06			73.1	2.000	0.063	0.622	0.880	--	40.80	42.92*				54.65*			1973	86213
		0.06			73.1	2.000	0.063	0.627	0.840	--	40.20	42.46*				51.95*			1973	86213
		0.06			73.2	2.000	0.064	0.628	0.870	--	47.80	50.59*				63.45*			1973	86213
		0.06			73.2	2.000	0.064	0.628	0.850	--	48.40	51.22*				63.11*			1973	86213
T6	Sheet	0.06	R.T.	T-L	71.4	2.000	0.065	0.628	0.910	--	41.90	44.34*	--	--		57.64*	--		1973	86213
		0.06			71.4	2.000	0.065	0.625	0.870	--	42.30	44.58*				56.15*			1973	86213
		0.06			72.7	2.000	0.065	0.622	0.730	--	50.40	53.01*				58.88*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.920	--	41.90	44.16*				58.16*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.810	--	41.10	43.32*				61.69*			1973	86213
		0.06			73.5	2.000	0.065	0.625	0.840	--	41.50	43.74*				53.63*			1973	86213
		0.06			74.2	2.000	0.065	0.621	1.060	--	47.00	49.34*				73.93*			1973	86213
		0.06			74.2	2.000	0.065	0.623	1.090	--	45.10	47.44*				72.89*			1973	86213
		0.06			74.4	2.000	0.065	0.628	0.920	--	44.40	46.99*				61.63*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																												
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER									
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _o	FINAL (in.) 2a _f	ONSET (Ksi) σ _s	MAX (Ksi) σ _{max}	K _{app} (Ksi√in) K _{app}	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV											
BUCKLING OF CRACK EDGES NOT RESTRAINED																												
T6 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	T-L Cont'd	74.4	2.000	0.065	0.628	0.920	---	47.30	50.06*	Cont'd	Cont'd	Cont'd	65.65*	Cont'd	Cont'd	1973	86213								
		0.06			70.9	2.000	0.066	0.625	0.920	---	43.40	45.74*				60.24*			1973	86213								
		0.06			72.7	2.000	0.066	0.621	0.750	---	50.80	53.33*				60.47*			1973	86213								
		0.06			73.7	2.000	0.066	0.629	0.910	---	43.80	46.35*				60.26*			1973	86213								
		0.06			73.7	2.000	0.066	0.627	0.930	---	43.20	45.63*				60.50*			1973	86213								
		0.06			74.2	2.000	0.066	0.624	1.000	---	45.10	47.54*				67.22*			1973	86213								
		0.06			74.2	2.000	0.066	0.624	1.040	---	47.00	49.54*				72.61*			1973	86213								
		0.06			69.3	2.000	0.067	0.623	1.000	---	43.50	45.76*				64.83*			1973	86213								
		0.06			69.3	2.000	0.067	0.633	0.940	---	46.20	49.09*				65.28*			1973	86213								
		0.06			70.9	2.000	0.067	0.623	1.010	---	43.40	45.65*				65.27*			1973	86213								
		0.06			71.0	2.000	0.067	0.624	0.900	---	45.30	47.75*				61.77*			1973	86213								
		0.06			71.0	2.000	0.067	0.623	0.950	---	44.90	47.23*				64.01*			1973	86213								
		0.06			72.2	2.000	0.067	0.632	0.970	---	43.60	46.33*				63.27*			1973	86213								
		0.06			72.2	2.000	0.067	0.623	1.210	---	46.00	48.39*				83.17*			1973	86213								
		0.06			73.5	2.000	0.067	0.623	1.080	---	43.20	45.44*				69.19*			1973	86213								
		0.06			73.5	2.000	0.067	0.624	1.090	---	45.20	47.64*				73.06*			1973	86213								
		T6			Sheet	0.12	R.T.	T-L	72.0	2.010	0.125	0.625				1.380			---	42.80	45.08*	42.0	0.4	91.65*	---	---	1973	86213
						0.12			74.2	2.010	0.125	0.624				1.170			---	39.60	41.71			68.72*			1973	86213
0.12	74.2		2.010	0.125		0.624			1.210	---	40.20	42.34	72.44*	1973	86213													
0.12	72.0		2.020	0.125		0.624			1.000	---	43.40	45.69*	64.44*	1973	86213													

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a ₀	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	T-L	71.8	3.000	0.061	1.050	---	---	36.50	50.76	50.1	0.8	---	---	2.5	1973	86213
		0.06			71.8	3.000	0.061	1.120	---	---	34.30	49.85			---			1973	86213
		0.06			71.8	3.000	0.061	1.080	---	---	34.80	49.33			---			1973	86213
		0.06			71.8	3.000	0.061	1.050	---	---	35.50	49.37			---			1973	86213
		0.06			71.8	3.000	0.061	1.060	---	---	35.70	49.97			---			1973	86213
		0.06			75.5	3.030	0.063	0.750	0.770	---	45.50	51.34			52.13*			1966	86734
T6	Sheet	0.12	R.T.	T-L	72.9	3.000	0.123	1.050	1.350	---	31.30	43.53	45.8	2.8	52.27	51.5	2.5	1973	86213
		0.12			72.9	3.000	0.123	1.050	1.380	---	33.90	47.15			57.63*			1973	86213
		0.12			72.9	3.000	0.123	1.110	1.410	---	32.90	47.52			56.93*			1973	86213
		0.12			72.9	3.000	0.123	1.070	1.320	---	32.50	45.78			53.31			1973	86213
		0.12			72.9	3.000	0.123	1.100	1.450	---	34.00	48.80			60.25*			1973	86213
		0.12			72.9	3.000	0.123	1.090	1.380	---	32.60	46.50			55.42*			1973	86213
		0.12			72.9	3.000	0.123	1.130	1.420	---	32.50	47.53			56.57*			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.380	---	35.40	47.68			60.18*			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.250	---	34.50	46.46			54.28			1973	86213
		0.12			74.1	3.000	0.123	1.000	1.240	---	34.10	45.92			53.32			1973	86213
T6	Sheet	0.12	R.T.	T-L	74.1	3.000	0.123	1.000	1.360	---	36.70	49.43	45.8	2.8	61.65*	51.5	2.5	1973	86213
		0.12			72.9	3.000	0.124	1.100	1.240	---	31.00	44.50			48.48			1973	86213
		0.12			72.9	3.000	0.124	1.120	1.340	---	31.80	46.22			52.79			1973	86213
		0.12			72.9	3.000	0.124	1.120	1.340	---	31.80	46.22			52.79			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in.) K _{app}	K _{app} MEAN	STAN DEV	K _C (Ksi√in.) K _C	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6 Cont'd	Sheet Cont'd	0.12	R.T.	T-L	77.0	3.000	0.128	1.210	1.510	---	25.80	39.62	Cont'd	Cont'd	47.38	Cont'd	Cont'd	1973	86213
		0.12	Cont'd	Cont'd	77.0	3.000	0.128	1.110	1.460	---	28.10	40.59			50.09			1973	86213
T6	Sheet	0.06	R.T.	T-L	70.5	3.990	0.062	1.720	2.050	---	29.30	54.55	54.3	0.4	63.22*	---	---	1973	86213
		0.06			70.5	4.000	0.062	1.720	2.080	---	29.00	53.96			63.36*			1973	86213
T6	Sheet	0.12	R.T.	T-L	74.1	4.000	0.122	1.720	1.960	---	27.90	51.91	49.4	3.6	57.77	54.3	4.9	1973	86213
		0.12			74.1	4.000	0.122	1.710	1.890	---	25.30	46.86			50.78			1973	86213
T6	Sheet	0.06	R.T.	T-L	75.5	4.500	0.063	1.130	1.130	---	40.00	55.46	55.5	0.0	55.46	59.3	4.0	1966	86734
		0.06			75.5	4.500	0.063	1.130	1.330	---	40.00	55.46			61.14			1966	86734
T6	Sheet	0.04	R.T.	T-L	68.0	6.000	0.039	0.500	0.630	---	50.50	44.96*	45.2	4.9	50.58*	---	---	1966	86734
		0.04			68.0	6.000	0.039	0.500	0.650	---	49.00	43.61			49.87*			1966	86734
		0.04			68.0	6.000	0.039	0.726	---	---	43.20	46.55			---			1966	86734
		0.04			68.0	6.000	0.039	0.500	0.620	---	54.30	48.33*			53.94*			1966	86734
		0.04			68.0	6.000	0.039	1.180	---	---	36.70	51.19			---			1966	86734
		0.04			68.0	6.000	0.039	0.500	0.590	---	55.50	49.40*			53.75*			1966	86734
		0.04			69.0	6.000	0.039	0.500	0.810	---	52.20	46.46*			59.56*			1966	86734
		0.04			69.0	6.000	0.040	0.500	0.650	---	52.40	46.64*			53.33*			1966	86734
T6	Sheet	0.04	R.T.	T-L	69.0	6.000	0.040	0.500	---	---	17.64	39.48	---	---	---	---	1966	86734	
		0.06			75.5	6.000	0.063	1.500	1.770	---	35.20	56.21			62.06		1966	86734	
T6	Sheet	0.06	R.T.	T-L	75.5	10.000	0.064	2.250	2.500	---	30.10	59.42	---	---	62.06	---	1966	86734	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _G																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _G			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _G (Ksi/in)	K _G MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T6	Sheet	0.06	R.T.	T-L	75.5	12.000	0.063	3.000	3.500	---	24.10	54.43	---	59.67	---	---	1966	86734	
T6	Sheet	0.06	R.T.	T-L	75.5	15.000	0.063	3.750	4.250	---	21.80	55.05	---	59.29	---	---	1966	86734	
T6	Sheet	0.16	R.T.	T-L	76.5	15.000	0.164	7.500	8.080	---	8.90	36.33	35.5	38.94	37.8	1.6	1966	86734	
		0.16			76.5	15.000	0.164	7.500	7.950	---	8.50	34.69		36.61			1966	86734	
T6	Sheet	0.06	R.T.	T-L	72.9	15.810	0.063	3.010	4.000	---	25.70	57.17	54.8	67.09	62.2	3.4	1973	86213	
		0.06			72.9	15.810	0.063	3.010	3.500	---	25.40	56.50		61.42			1973	86213	
		0.06			72.9	15.810	0.063	5.980	6.960	---	15.80	53.20		59.52			1973	86213	
		0.06			72.9	15.820	0.063	4.000	4.720	---	20.40	53.25		58.81			1973	86213	
		0.06			72.9	15.820	0.063	1.000	1.400	---	42.90	53.90		63.93			1973	86213	
		0.06			75.5	18.000	0.064	4.500	5.000	---	19.60	54.21		---			---	57.70	---	1966	86734
T6	Sheet	0.06	R.T.	T-L	75.5	21.000	0.064	5.250	5.250	---	19.60	58.56	---	58.56	---	1966	86734		
T6	Sheet	0.06	R.T.	T-L	69.0	24.000	0.063	8.000	8.000	---	11.40	43.43	46.0	43.43	46.3	5.9	1966	86734	
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.30	43.04		43.04			1966	86734	
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.40	43.43		43.43			1966	86734	
		0.06			69.0	24.000	0.063	8.000	8.000	---	11.25	42.85		42.85			1966	86734	
		0.06			69.0	24.000	0.063	8.000	8.000	---	10.90	41.52		41.52			1966	86734	
		0.06			75.5	24.000	0.064	6.000	6.360	---	16.71	53.37		55.23			1966	86734	
T6	Sheet	0.06	R.T.	T-L	75.5	24.000	0.064	6.000	6.000	---	17.00	54.30	46.0	54.30	46.3	5.9	1966	86734	
		0.06			73.3	29.990	0.081	15.00	15.050	---	9.70	56.00		56.17			1966	86734	
		0.08			73.3	29.990	0.081	15.00	15.050	---	9.70	56.00		56.17			1966	86734	
		0.08			73.3	29.990	0.081	15.00	15.050	---	9.70	56.00		56.17			1966	86734	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T6	Plate	0.25	R.T.	T-L	76.0	15.000	0.246	7.500	8.500	...	13.00	53.06		59.88			1966	86734
		0.25			76.0	15.000	0.247	7.500	8.600	...	11.70	47.76	50.4	3.7	57.2	3.8	1966	86734
T6	Plate	0.50	R.T.	T-L	73.3	15.000	0.514	7.500	9.450	...	9.40	38.37		48.88		1966	86734	
		0.50			73.3	15.000	0.514	7.500	9.500	...	9.50	38.78	38.6	0.3	49.73	0.6	1966	86734
BUCKLING OF CRACK EDGES RESTRAINED																		
T651	Sheet	0.12	R.T.	L-T	75.4	3.000	0.125	1.160	1.680	22.80	35.90	53.48		73.05*			1965	62310
		0.12			75.4	3.000	0.125	1.170	1.440	20.80	35.20	52.76		62.01*			1965	62310
		0.12			79.1	3.000	0.125	1.170	1.550	20.90	29.50	44.21		55.48			1965	62310
		0.12			79.1	3.000	0.125	1.200	1.460	22.60	33.20	50.68		59.18*			1965	62310
		0.12			80.6	3.000	0.125	1.120	1.510	21.30	34.20	49.70		62.80*			1965	62310
		0.12			80.6	3.000	0.125	1.110	1.390	19.70	35.30	50.99		60.37*			1965	62310
T651	Sheet	0.05	R.T.	L-T	78.3	7.990	0.048	1.610	1.950	...	32.20	52.53		58.52			1971	84340
		0.05			78.3	8.000	0.052	1.600	1.920	...	37.90	61.61		68.26			1971	84340
		0.05			78.3	8.000	0.052	1.620	1.790	...	34.00	55.65		58.84			1971	84340
		0.05			78.3	8.000	0.053	1.620	1.880	...	36.30	59.42		64.59			1971	84340
		0.05			78.3	8.000	0.053	1.610	2.110	...	37.50	61.17		71.36			1971	84340
		0.05			78.3	8.000	0.053	1.610	1.850	...	33.40	54.48		58.99			1971	84340

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T651	Sheet	0.10	R.T.	L-T	78.3	8.000	0.101	2.440	---	---	28.60	59.44	55.4	3.6	---	---	---	1971	84340
		0.10			78.3	8.000	0.101	0.800	---	---	45.40	61.21			---			1971	84340
		0.10			78.3	8.000	0.102	2.420	---	---	29.10	60.17			---			1971	84340
		0.10			78.3	8.000	0.103	0.810	---	---	46.50	52.79			---			1971	84340
		0.10			78.3	8.000	0.103	1.610	---	---	33.10	53.99			---			1971	84340
		0.10			78.3	8.000	0.104	1.610	---	---	33.50	54.65			---			1971	84340
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	Sheet	0.12	R.T.	L-T	79.1	3.000	0.121	1.200	1.460	20.70	33.20	50.68	49.2	3.5	59.18*	52.6	2.9	1973	86213
		0.12			75.4	3.000	0.122	1.170	1.440	20.50	35.20	52.76			62.01*			1973	86213
		0.12			75.4	3.000	0.123	1.000	1.640	21.10	40.40	54.41*			80.22*			1973	86213
		0.12			75.4	3.000	0.124	1.160	1.680	22.80	35.90	53.48			73.05*			1973	86213
		0.12			75.4	3.000	0.125	1.000	1.240	22.10	41.00	55.22*			64.11*			1973	86213
		0.12			79.1	3.000	0.125	1.000	1.240	---	33.80	45.52			52.85			1973	86213
		0.12			79.1	3.000	0.125	1.170	1.550	18.70	29.50	44.21			55.48			1973	86213
		0.12			79.1	3.000	0.125	1.000	1.200	---	32.50	43.77			49.61			1973	86213
		0.12			78.5	3.000	0.127	1.000	1.300	21.30	37.50	50.50			60.79*			1973	86213
		0.12			78.5	3.000	0.127	1.110	1.390	18.30	35.30	50.99			60.37*			1973	86213
		0.12			78.5	3.000	0.127	1.000	1.420	18.70	37.40	50.37			65.10*			1973	86213
		0.12			78.5	3.000	0.127	1.120	1.510	19.30	34.20	49.70			62.80*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _o	FINAL (in.) 2a _r	ONSET (Ksi) σ _s	MAX (Ksi) σ _{max}	K _{app} (Ksi√in) K _{app}	K _{app} MEAN	STAN DEV	K _C (Ksi√in) K _C	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651	Plate	0.25	R.T.	L-T	77.3	3.000	0.252	1.000	1.500	---	36.80	49.56	46.3	2.9	67.18*	46.3	0.0	1973	86213
		0.25			77.3	3.000	0.253	1.370	1.510	---	25.20	42.58			46.28			1973	86213
		0.25			77.3	3.000	0.253	1.180	1.180	---	30.70	46.29			46.29			1973	86213
		0.25			77.3	3.000	0.253	1.000	1.490	---	34.70	46.73			62.97*			1973	86213
T651	Plate	0.25	R.T.	L-T	78.2	4.000	0.247	1.330	1.980	---	34.00	52.79	50.7	4.1	71.03*	61.3	4.7	1973	86213
		0.25			78.2	4.000	0.247	1.390	1.960	---	32.30	51.63			66.88*			1973	86213
		0.25			78.8	4.000	0.247	1.440	1.980	---	33.80	55.32			70.61*			1973	86213
		0.25			78.8	4.000	0.248	1.330	1.970	---	35.50	55.12			73.83*			1973	86213
		0.25			78.8	4.000	0.249	1.330	2.040	---	34.90	54.19			74.89*			1973	86213
		0.25			80.7	4.000	0.250	1.823	2.840	---	24.70	48.10			78.65*			1973	86213
		0.25			81.9	4.000	0.250	1.845	2.856	---	24.20	47.59			77.78*			1973	86213
		0.25			77.3	4.000	0.251	1.330	1.960	---	31.20	48.44			64.60			1973	86213
T651	Plate	0.25	R.T.	L-T	77.3	4.000	0.253	1.450	2.110	---	26.20	43.09	43.5	1.6	58.02	---	1973	86213	
		0.50			78.0	4.000	0.499	1.877	2.814	---	21.20	42.29			66.51*		1973	86213	
T651	Plate	0.50	R.T.	L-T	79.2	4.000	0.500	1.637	2.786	---	24.90	44.61	54.9	3.6	76.89*	---	1973	86213	
		0.31			81.2	8.000	0.313	1.550	---	---	34.90	55.75			---		1971	84340	
		0.31			81.2	7.970	0.314	0.740	---	---	47.10	51.05			---		1971	84340	
		0.31			81.2	8.010	0.315	0.770	---	---	45.60	50.44			---		1971	84340	
	Plate	0.31	R.T.	L-T	81.2	7.960	0.316	2.310	---	---	28.80	57.90	---		---		1971	84340	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T651 Cont'd	Plate Cont'd	0.31	R.T. Cont'd	L-T Cont'd	81.2	8.010	0.316	1.590	---	---	34.00	55.08	---	---	---	---	Cont'd	1971	84340
		0.31			81.2	8.010	0.316	2.360	---	---	29.20	59.43	---	---	---	---	Cont'd	1971	84340
T651	Plate	0.75	R.T.	L-T	77.5	8.000	0.763	1.580	3.360	---	23.30	37.62	---	---	60.22	---	---	1971	84340
		1.00			76.6	20.000	1.000	7.000	11.100	8.80	17.10	61.41			89.01			1965	62310
		1.00			76.6	20.000	1.000	7.000	10.690	8.50	17.40	62.48			87.25			1965	62310
		1.00			76.6	20.000	1.000	7.000	10.770	8.60	16.60	59.61			83.85			1965	62310
		1.00			76.6	20.000	1.000	7.000	10.590	8.70	18.00	64.64			89.45			1965	62310
		1.00			78.5	20.000	1.000	7.000	10.300	8.90	13.80	49.56			66.81			1965	62310
		1.00			78.5	20.000	1.000	7.000	10.650	8.90	14.20	50.99			70.95			1965	63210
		1.00	R.T.	L-T	78.5	20.000	1.000	7.000	10.600	8.80	13.40	48.12	53.5	6.5	66.65	75.4	9.1	1965	62310
		1.00			78.5	20.000	1.000	7.000	10.850	8.80	13.90	49.92			70.72			1965	63210
		1.00			80.3	20.000	1.000	7.000	10.660	8.90	13.40	48.12			67.01			1965	62310
T651	Plate	1.00			80.3	20.000	1.000	7.000	11.320	9.10	13.40	48.12			71.18			1965	62310
		1.00			80.3	20.000	1.000	7.000	10.830	8.60	13.80	49.56			70.09			1965	62310
		1.00			80.3	20.000	1.000	7.000	11.170	8.80	13.70	49.20			71.78			1965	62310
		1.00			73.4	3.000	0.122	1.000	1.180	20.50	36.40	49.02			54.89*			1973	86213
		0.12			73.4	3.000	0.123	1.000	1.250	---	37.50	50.50			58.99*			1973	86213
		0.12	R.T.	T-L	77.7	3.000	0.123	1.180	1.320	18.40	28.40	42.83	44.0	4.1	46.59	48.7	1.2	1973	86213
		0.12			73.4	3.000	0.124	1.120	1.300	20.20	35.30	51.30			57.22*			1973	86213
		0.12																	
		0.12																	
		0.12																	

* NOTE. NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER		
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{max} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV	
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T651 Cont'd	Sheet Cont'd	0.12	R.T. Cont'd	T-L Cont'd	77.7	3.000	0.124	1.000	1.160	---	33.00	44.44	Cont'd	Cont'd	Cont'd	49.16	Cont'd	1973	86213	
		0.12			77.7	3.000	0.124	1.160	1.440	14.20	27.00	40.22				47.56		1973	86213	
		0.12			73.4	3.000	0.125	1.140	1.320	20.50	30.10	44.29				49.38		1973	86213	
		0.12			77.7	3.000	0.125	1.000	1.290	---	30.00	40.40				48.34		1973	86213	
		0.12			76.0	3.000	0.127	1.000	1.300	20.20	29.60	39.86				47.98		1973	86213	
		0.12			76.0	3.000	0.127	1.100	1.380	17.60	28.70	41.19				48.79		1973	86213	
		0.12			76.0	3.000	0.127	1.000	1.350	21.70	30.30	40.81				50.60		1973	86213	
		0.12			76.0	3.000	0.127	1.090	1.300	18.40	30.60	43.65				49.60		1973	86213	
		0.25			74.2	3.000	0.252	1.000	1.380	---	25.50	34.34				43.35		1973	86213	
		0.25			74.2	3.000	0.253	1.330	1.680	---	21.30	35.15				43.34		1973	86213	
		0.25			74.2	3.000	0.253	1.010	1.220	---	25.70	34.84				39.71		1973	86213	
		0.25			74.2	3.000	0.253	1.260	1.710	---	20.60	32.60				42.70		1973	86213	
T651	Plate	0.25	R.T.	T-L	74.2	3.000	0.253	1.040	1.330	---	24.10	33.31	34.2	1.1	43.9	3.3	1973	86213		
		0.25			74.2	3.000	0.253	1.000	1.330	---	25.10	33.80					41.42	1973	86213	
		0.25			74.2	3.000	0.253	1.090	1.390	---	23.90	34.09					40.87	1973	86213	
		0.25			74.2	3.000	0.253	1.000	1.430	---	24.70	33.27					43.25	1973	86213	
		0.25			74.2	3.000	0.253	1.000	1.520	---	24.60	33.13					45.44	1973	86213	
		0.25			74.2	3.000	0.253	1.000	1.440	---	26.60	35.82					46.86	1973	86213	
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.60	32.90					39.17	1973	86213	
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.60	32.90								
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.60	32.90								
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.60	32.90								
		0.25			74.2	3.000	0.253	1.130	1.420	---	22.60	32.90								

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER		
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _y	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN			STAN DEV	
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T651 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	T-L Cont'd	74.2	3.000	0.253	1.240	1.660	--	23.50	36.75	Cont'd	Cont'd	Cont'd	47.23	Cont'd	1973	86213	
		0.25			74.2	3.000	0.254	1.000	1.490	--	26.20	35.29				47.54		1973	86213	
		0.25			74.2	3.000	0.254	1.000	1.550	--	25.50	34.34				47.96		1973	86213	
		0.25			74.2	3.000	0.254	1.000	1.440	--	25.00	33.67				44.04		1973	86213	
		0.25			74.2	3.000	0.254	1.000	1.610	--	25.50	34.34				49.72		1973	86213	
		0.25	R.T.	T-L	72.0	4.000	0.247	1.460	2.180	--	25.50	42.30	Cont'd	Cont'd	Cont'd	58.52	1973	86213		
		0.25			72.0	4.000	0.247	1.330	1.940	--	26.60	41.30				54.59	1973	86213		
		0.25			75.4	4.000	0.249	1.440	2.060	--	25.70	42.06				55.40	1973	86213		
		0.25			75.4	4.000	0.249	1.330	2.020	--	26.00	40.37				55.29	1973	86213		
		0.25			75.4	4.000	0.251	1.330	1.840	--	25.50	39.59				50.05	1973	86213		
T651	Plate	0.25	R.T.	T-L	74.2	3.990	0.253	1.700	2.060	--	21.10	38.93	Cont'd	Cont'd	Cont'd	45.73	Cont'd	1973	86213	
		0.25			74.2	4.000	0.253	1.330	1.850	--	24.20	37.57				47.71		4.6	1973	86213
		0.25			74.2	4.000	0.253	1.430	2.020	--	23.80	38.77				50.62		1973	86213	
		0.25			74.2	4.000	0.253	1.420	1.820	--	24.20	39.24				47.08		1973	86213	
		0.25			74.2	4.000	0.253	1.330	1.780	--	24.60	38.19				47.02		1973	86213	
		0.25	R.T.	T-L	74.2	4.000	0.253	1.390	1.720	--	24.10	38.52	Cont'd	Cont'd	Cont'd	44.84	1973	86213		
		0.25			74.2	4.000	0.253	1.710	2.110	--	21.00	38.90				46.50	1973	86213		
		0.50			73.0	4.000	0.500	1.720	2.000	--	17.10	31.82				35.04	1.5	1973	86213	
		0.50			73.0	4.000	0.500	1.710	1.860	--	17.10	31.67				33.87	1973	86213		
		0.50			73.0	4.000	0.500	1.710	1.860	--	17.10	31.67				33.87	1973	86213		

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T651	Plate	0.50	R.T.	T-L	77.2	14.950	0.514	4.970	6.950	---	13.00	39.02	38.5	0.8	49.76	47.9	2.7		1973	86213
		0.50			77.2	14.980	0.514	5.000	6.550	---	12.60	37.95			45.96				1973	86213
		1.00			73.6	20.000	1.000	7.000	9.150	---	8.80	31.60			38.45				1973	86213
		1.00			73.6	20.000	1.000	7.000	8.150	---	8.70	31.24			34.76				1973	86213
		1.00			73.6	20.000	1.000	7.000	9.000	---	9.40	33.76			40.53				1973	86213
T651	Plate	1.00	R.T.	T-L	73.6	20.000	1.000	7.000	8.330	---	9.10	32.68	30.4	1.8	36.95	35.2	3.2		1973	86213
		1.00			76.0	20.000	1.000	7.000	9.070	---	8.70	31.24			37.75				1973	86213
		1.00			76.0	20.000	1.000	7.000	9.030	---	8.40	30.17			36.32				1973	86213
		1.00			76.0	20.000	1.000	7.000	8.670	---	8.10	29.09			33.91				1973	86213
		1.00			76.0	20.000	1.000	7.000	8.580	---	8.60	30.88			35.72				1973	86213
		1.00			77.4	20.000	1.000	7.000	7.650	---	8.00	28.73			30.53				1973	86213
		1.00			77.4	20.000	1.000	7.000	8.250	---	7.70	27.65			31.04				1973	86213
		1.00			77.4	20.000	1.000	7.000	9.250	---	8.10	29.09			35.71				1973	86213
		1.00			77.4	20.000	1.000	7.000	7.470	---	8.10	29.09			30.40				1973	86213
		0.06			61.0	2.010	0.061	0.625	0.800	---	40.60	42.76*			50.54*				1973	86213
		0.06			60.0	2.000	0.062	0.625	1.280	---	41.60	43.85*			80.58*				1973	86213
T73	Sheet	0.06	R.T.	L-T	60.0	2.000	0.062	0.625	1.240	---	42.00	44.27*	---	---	78.18*	---	---	1973	86213	
		0.06			60.0	2.000	0.062	0.625	1.400	---	41.60	43.85*			91.56*			1973	86213	
		0.06			61.0	2.010	0.062	0.623	0.830	---	40.30	42.36*			51.55*			1973	86213	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _e	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T73 Cont'd	Sheet Cont'd	0.06	R.T. Cont'd	L-T Cont'd	62.5	2.000	0.065	0.624	0.940	---	42.30	44.58*	Cont'd	Cont'd	59.77*	Cont'd	Cont'd	1973	86213
		0.06			62.5	2.000	0.065	0.622	0.920	---	42.00	44.18*			58.30*			1973	86213
		0.06			57.8	2.000	0.066	0.626	0.960	---	39.60	41.82*			56.45*			1973	86213
		0.06			57.8	2.000	0.066	0.628	1.070	---	39.90	42.22*			63.33*			1973	86213
T73	Sheet	0.06	88	L-T	60.0	16.000	0.063	4.000	4.800	13.90	29.40	76.67	76.4	0.4	85.52	82.9	3.7	1973	86213
		0.06			60.0	16.000	0.063	4.000	4.380	14.20	29.20	76.15			80.34			1973	86213
		0.06			60.9	2.010	0.061	0.625	0.900	---	37.70	39.71*			51.33*			1973	86213
		0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*			76.52*			1973	86213
T73	Sheet	0.06	R.T.	T-L	59.0	2.000	0.062	0.625	1.210	---	40.10	42.27*	---	---	72.50*	---	---	1973	86213
		0.06			59.0	2.000	0.062	0.625	1.260	---	40.30	42.48*			76.52*			1973	86213
		0.06			60.9	2.000	0.062	0.626	0.820	---	38.60	40.77*			48.99*			1973	86213
		0.06			60.9	2.010	0.062	0.627	0.860	---	39.20	41.37*			51.50*			1973	86213
		0.06			58.3	2.000	0.065	0.627	0.970	---	39.60	41.82*			57.46*			1973	86213
		0.06			58.3	2.000	0.065	0.628	0.980	---	39.00	41.27*			57.10*			1973	86213
		0.06			63.8	2.000	0.066	0.627	0.920	---	40.90	43.20*			56.77*			1973	86213
		0.06			63.8	2.000	0.066	0.626	0.900	---	40.90	43.20*			55.77*			1973	86213
T73	Sheet	0.06	R.T.	T-L	59.0	3.000	0.062	1.060	---	---	36.20	50.35*	---	---	---	---	---	1973	86213
		0.06			59.0	3.000	0.062	1.070	---	---	35.30	49.72*			---			1973	86213
		0.06			59.0	3.000	0.062	1.060	---	---	35.70	49.97*			---			1973	86213
		0.06			59.0	3.000	0.062	1.060	---	---	35.70	49.97*			---			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{max} (Ksi√in)	K _{max} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T73 Cont'd	Sheet Cont'd	0.06			59.0	3.000	0.062	1.060	---	---	35.80	50.11*			---		1973	86213
		0.06			59.0	3.000	0.062	1.060	---	---	35.80	50.11*			---		1973	86213
		0.06			59.0	3.000	0.062	1.060	---	---	35.80	49.79*			---		1973	86213
BUCKLING OF CRACK EDGES RESTRAINED																		
T7351	Sheet	0.05			69.1	8.000	0.063	1.610	2.310	---	42.40	69.16			85.19*		1971	84340
		0.05			69.1	7.990	0.064	1.610	2.110	---	46.10	75.20*			87.73*		1971	84340
		0.05			69.1	7.990	0.064	1.610	2.150	---	40.60	66.23			78.13*		1971	84340
		0.05			69.1	7.990	0.064	1.610	2.210	---	46.60	76.02*			91.16*		1971	84340
		0.05			69.1	7.990	0.065	1.620	2.160	---	45.20	73.99*			87.22*		1971	84340
		0.05			69.1	7.990	0.065	1.640	2.060	---	42.90	70.70			80.49*		1971	84340
		0.06			58.2	8.000	0.060	3.170	4.200	16.50	27.70	68.58			86.36*		1970	79089
		0.06			58.2	8.000	0.060	6.400	6.600	6.00	9.10	51.90			56.24*		1970	79089
		0.06			58.2	8.000	0.061	2.350	3.550	20.50	33.80	69.63*			91.15*		1970	79089
		0.06			58.2	8.000	0.061	3.970	5.000	16.40	23.80	70.47*			89.49*		1970	79089
		0.06			58.2	8.000	0.061	4.760	5.620	10.30	18.40	65.27			81.45*		1970	79089
		0.06			58.2	8.000	0.061	5.550	6.080	11.30	13.30	57.73			67.74*		1970	79089
		0.06			58.2	8.010	0.061	7.280	7.380	3.00	4.00	35.81			38.79*		1970	79089
		0.06			58.2	8.000	0.062	0.780	1.400	30.20	45.90	51.11*			69.38*		1970	79089
		0.06			58.2	8.000	0.062	1.500	1.950	24.20	38.70	62.91*			70.32*		1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{max} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES RESTRAINED																			
T7351	Sheet	0.10	R.T.	L-T	62.9	8.000	0.101	0.820	---	---	57.60	65.80*	---	---	---	---	---	1971	84340
		62.9			8.000	0.101	2.410	---	---	37.10	76.51*	1971						84340	
		62.9			8.000	0.104	2.420	---	---	38.90	80.43*	1971						84340	
		62.9			8.010	0.104	1.620	---	---	47.10	77.09*	1971						84340	
		62.9			8.010	0.104	0.820	---	---	54.10	61.80*	1971						84340	
		62.9			8.010	0.105	1.620	---	---	44.50	72.83*	1971						84340	
T7351	Plate	0.31	R.T.	L-T	68.7	2.000	0.315	0.390	0.670	---	52.80	42.32*	---	---	---	---	1971	84340	
		68.7			2.000	0.319	0.430	0.750	---	51.00	43.15*	1971					84340		
T7351	Plate	0.25	R.T.	L-T	60.5	8.000	0.253	2.860	3.800	---	30.60	70.50	59.7	13.2	---	---	---	1970	79089
		60.5			8.020	0.253	6.420	6.600	---	8.50	48.62	1970						79089	
		60.5			8.040	0.254	0.770	---	---	46.80	51.76*	1970						79089	
		60.5			8.030	0.255	5.650	6.000	---	13.60	60.47	1970						79089	
		60.5			8.030	0.255	3.230	4.450	---	28.20	70.71	1970						79089	
		60.5			8.040	0.255	7.660	---	---	1.90	24.20	1970						79089	
		60.5			8.060	0.255	5.230	5.860	---	15.50	61.44	1970						79089	
		60.5			8.030	0.256	4.870	5.600	---	17.80	64.67	1970						79089	
		60.5			8.040	0.256	4.350	5.100	---	20.80	66.92	1970						79089	
		60.5			8.030	0.257	3.650	4.900	---	25.20	69.41	1970						79089	
		60.5			8.030	0.257	6.690	7.000	---	7.40	47.12	1970						79089	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES RESTRAINED																				
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.5	8.040	0.257	1.660	2.900	---	39.30	65.18*	Cont'd	Cont'd	Cont'd	91.32*	Cont'd	Cont'd	1970	79089
		0.25			60.5	8.040	0.258	2.000	3.000	---	36.30	66.91				86.33*			1970	79089
		0.25			60.5	8.040	0.258	1.220	---	---	43.40	60.95*				---			1970	79089
		0.25			60.5	8.040	0.258	2.470	3.400	---	33.70	70.53*				87.77*			1970	79089
		0.25			60.5	8.040	0.259	4.010	5.050	---	23.00	68.58				87.23*			1970	79089
		0.25			60.5	8.020	0.260	6.000	---	---	11.50	56.87				---			1970	79089
		0.25			60.5	8.030	0.260	7.270	7.300	---	4.70	41.27*				42.19*			1970	79089
		0.31			68.7	7.950	0.312	0.760	---	---	51.20	56.26*				---			1971	84340
		0.31			68.7	8.000	0.313	2.370	---	---	33.90	69.19				---			1971	84340
		0.31			68.7	8.000	0.314	1.560	---	---	41.60	66.69				---			1971	84340
T7351	Plate	0.31	R.T.	L-T	68.7	7.950	0.316	0.770	---	---	50.70	56.08*	68.8	1.4	---	---	---	1971	84340	
		0.31			68.7	8.000	0.316	1.590	---	---	42.70	69.17				---		1971	84340	
		0.31			68.7	8.000	0.317	2.370	---	---	34.30	70.01				---		1971	84340	
		0.25			60.5	15.920	0.248	11.45	13.500	---	11.40	74.00				107.94*		1970	79089	
		0.25			60.5	15.900	0.251	8.150	10.200	---	19.70	84.67				107.93*		1970	79089	
T7351	Plate	0.25	R.T.	L-T	60.5	15.880	0.252	14.50	14.700	---	3.70	47.87	77.2	14.2	---	52.10*	---	1970	79089	
		0.25			60.5	15.900	0.252	1.580	---	---	45.30	71.80*				---		1970	79089	
		0.25			60.5	15.910	0.252	4.840	7.000	---	31.30	91.59				118.24*		1970	79089	
		0.25			60.5	15.910	0.252	12.93	---	---	8.00	66.95				---		1970	79089	
		0.25			60.5	15.910	0.252	12.93	---	---	8.00	66.95				---		1970	79089	

* NOTE: NET SECTION STRESS EXCEEDS 90% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																		
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _y	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES RESTRAINED																		
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.5	15.950	0.252	3.160	--	--	35.80	81.75	Cont'd	Cont'd	--	Cont'd	1970	79089
		0.25			60.5	16.020	0.252	6.470	8.600	--	24.80	88.09			111.77*		1970	79089
		0.25			60.5	15.910	0.253	9.560	10.850	--	16.30	92.47			97.22*		1970	79089
T7351	Plate	0.31	R.T.	L-T	68.7	22.000	0.313	4.430	5.450	--	31.40	84.96	--	--	95.51	1971	84340	
T7351	Plate	0.31	R.T.	L-T	68.7	32.000	0.311	6.420	10.180	--	28.60	93.15	--	--	122.07	1971	84340	
T7351	Plate	0.25	R.T.	L-T	60.5	36.120	0.253	28.83	33.100	4.50	7.80	94.01	--	--	155.42*	1970	79089	
T7351	Plate	0.25	R.T.	L-T	60.5	36.120	0.259	7.350	9.250	17.40	25.90	90.32	92.5	3.1	102.92	119.9	1970	79089
		0.25			60.5	36.120	0.259	18.00	24.880	10.20	15.00	94.73			136.84		1970	79089
BUCKLING OF CRACK EDGES NOT RESTRAINED																		
T7351	Sheet	0.20	R.T.	L-T	69.1	8.000	0.200	1.630	2.400	--	44.20	72.59*	90.92*	79.60*	--	--	1971	84340
		0.20			69.1	7.990	0.201	1.640	2.350	--	39.20	64.60					1971	84340
T7351	Plate	0.60	R.T.	L-T	66.0	2.000	0.597	0.330	--	--	57.20	41.89*	--	--	--	--	1971	84340
		0.60			66.0	2.000	0.602	0.310	--	--	54.70	38.75*					1971	84340
T7351	Plate	0.25	R.T.	L-T	64.6	3.000	0.113	1.000	1.800	19.50	39.40	53.06*	--	--	86.41*	1973	86213	
T7351	Plate	0.25	R.T.	L-T	60.6	3.000	0.124	1.070	1.960	16.40	35.60	50.15*	86.79*	76.02*	--	--	1973	86213
		0.25			57.5	3.000	0.125	1.070	1.740	18.00	36.00	50.71*					1973	86213
		0.25			57.5	3.000	0.125	1.080	2.000	17.80	33.90	48.05*					1973	86213
		0.25			57.5	3.000	0.125	1.000	1.670	17.40	37.80	50.91*					1973	86213
		0.25			57.5	3.000	0.125	1.000	2.000	18.60	35.80	48.21*					1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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7075

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _e	MAX (Ksi) σ _{max}	K _{TC} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351 Cont'd	Plate Cont'd	0.25	R.T. Cont'd	L-T Cont'd	60.6	3.000	0.125	1.140	1.800	18.30	35.10	51.65*	Cont'd	Cont'd	Cont'd	76.98*	Cont'd	1973	86213
		0.25			60.6	3.000	0.125	1.000	1.620	16.60	38.60	51.99*				75.72*			86213
		0.25			64.6	3.000	0.125	1.000	1.660	19.50	40.30	54.27*				81.00*			86213
		0.25			64.6	3.000	0.125	1.090	1.770	19.50	37.30	53.20*				80.27*			86213
		0.25			60.6	3.000	0.126	1.000	1.740	19.20	37.80	50.91*				79.82*			86213
		0.25			64.6	3.000	0.127	1.090	1.810	16.50	38.50	54.92*				84.98*			86213
T7351	Plate	0.50	R.T.	L-T	70.6	8.000	0.458	1.630	2.300	---	40.50	66.52	---	---	81.16*	---	1971	84340	
T7351	Plate	0.50	R.T.	L-T	62.1	7.960	0.501	2.430	3.250	18.60	30.20	62.64	59.9	8.4	61.5	76.23*	10.5	1970	79089
		0.50			62.1	8.000	0.501	6.900	6.950	5.10	6.20	44.09				45.28		1970	79089
		0.50			62.1	8.010	0.501	2.860	3.420	15.00	27.20	62.65				71.23		1970	79089
		0.50			62.1	8.000	0.502	5.630	5.900	8.10	12.10	53.72				58.19		1970	79089
		0.50			62.1	8.010	0.502	3.140	4.150	16.50	27.30	67.10				84.11*		1970	79089
		0.50			62.1	8.010	0.502	4.470	4.600	11.70	19.00	62.94				64.86		1970	79089
		0.50			62.1	8.000	0.503	5.250	5.420	8.70	14.30	57.27				59.90		1970	79089
		0.50			62.1	8.010	0.504	1.630	---	20.30	35.50	58.30				---		1970	79089
		0.50			62.1	8.110	0.505	2.400	3.450	16.70	32.20	66.13				84.61*		1970	79089
		0.50			62.1	8.020	0.506	3.170	3.850	15.00	27.20	67.30				78.35*		1970	79089
T7351	Plate	0.50			62.1	8.110	0.506	1.220	---	33.10	43.40	60.93*			---		1970	79089	
		0.50			62.1	8.110	0.506	4.840	5.500	9.80	17.70	63.44			74.76*		1970	79089	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _s	MAX (Ksi) σ _{max}	K _{app} (Ksi√in.)	K _{app} MEAN	STAN DEV	K _C (Ksi√in.)	K _C MEAN	STAN DEV		
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351 Cont'd	Plate Cont'd	0.50	R.T. Cont'd	L-T Cont'd	62.1	8.110	0.506	1.650	2.200	21.30	39.20	64.77	Cont'd	Cont'd	76.37*	Cont'd	Cont'd	1970	79089
		0.50			62.1	8.020	0.507	0.820	---	---	46.10	52.66*			---			1970	79089
		0.50			62.1	8.020	0.507	7.340	---	2.60	3.90	36.34			---			1970	79089
		0.50			62.1	8.100	0.507	4.070	5.080	16.10	21.20	63.87			80.55*			1970	79089
		0.50			62.1	8.110	0.507	3.270	3.900	15.40	25.20	63.61			73.10			1970	79089
		0.50			62.1	8.130	0.507	2.030	---	24.80	35.00	65.02			---			1970	79089
		0.50			62.1	8.130	0.507	4.750	4.950	10.80	16.90	59.22			62.07			1970	79089
		0.50			62.1	8.090	0.508	3.980	4.500	15.60	23.40	69.15			77.65*			1970	79089
		0.50			62.1	8.100	0.508	3.150	5.000	16.80	27.20	66.85			101.36*			1970	79089
		0.50			62.1	8.110	0.508	3.610	4.200	13.40	23.40	63.69			72.52			1970	79089
		0.50			62.1	8.120	0.508	6.450	6.500	5.80	8.00	45.19			46.04			1970	79089
		0.50			62.1	8.120	0.508	6.070	---	6.90	10.40	51.67			---			1970	79089
		0.50			62.1	8.140	0.508	1.610	2.450	26.00	38.90	63.40			80.88*			1970	79089
T7351	Plate	0.60	R.T.	L-T	66.0	7.990	0.599	2.390	---	---	29.50	60.53	57.9	4.6	---	---	---	1971	84340
		0.60			66.0	8.000	0.599	1.590	---	---	38.20	61.88			---			1971	84340
		0.60			66.0	7.990	0.600	2.420	---	---	29.50	61.00			---			1971	84340
		0.60			66.0	8.000	0.602	0.820	---	---	46.40	53.00			---			1971	84340
		0.60			66.0	8.000	0.602	1.610	---	---	36.80	60.03			---			1971	84340
		0.60			66.0	8.000	0.605	0.790	---	---	45.60	51.10			---			1971	84340

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _i	MAX (Ksi) σ _{max}	K _{app} (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T7351	Plate	1.00			61.1	8.070	1.006	1.500	1.700	21.10	24.90	39.06				41.84			1970	79089
		1.00	R.T.	L-T	61.1	8.060	1.009	6.310	6.470	7.10	7.60	41.37				43.88		5.3	1970	79089
		1.00			61.1	8.030	1.010	4.010	4.270	14.70	16.40	48.92	43.1	5.2		51.85			1970	79089
T7351	Plate	0.75	R.T.	L-T	68.3	9.000	0.764	1.610	2.350	---	28.10	45.59	---	---	---	56.38	---	---	1971	84340
		0.50			62.1	16.100	0.498	3.100	6.340	18.70	35.50	80.18				124.12*			1970	79089
T7351	Plate	0.50			62.1	16.100	0.503	8.250	10.160	11.00	19.90	86.04				107.43*			1970	79089
		0.50			62.1	16.090	0.504	6.350	11.090	15.40	21.50	75.27				131.03*			1970	79089
		0.50	R.T.	L-T	62.1	16.100	0.504	4.800	9.840	15.70	27.40	79.65	73.5	9.5		142.25*		---	1970	79089
		0.50			62.1	16.100	0.505	1.580	5.730	22.80	41.00	64.98				133.59*			1970	79089
		0.50			62.1	16.090	0.506	12.90	13.160	5.60	8.30	67.50				71.04			1970	79089
		0.50			62.1	16.090	0.506	14.20	15.570	3.40	5.20	57.34				114.16*			1970	79089
		0.50			62.1	16.120	0.508	11.20	13.100	7.90	12.50	77.20				105.28*			1970	79089
		0.50	R.T.	L-T	61.1	16.050	0.595	8.040	8.090	9.90	14.00	59.21	---	---	---	59.54	---	---	1970	79089
T7351	Plate	1.00			61.1	16.050	1.004	11.07	11.070	6.80	7.10	43.26				43.26			1970	79089
		1.00			61.1	16.030	1.007	4.730	5.200	12.70	17.30	49.86				52.92			1970	79089
		1.00	R.T.	L-T	61.1	16.030	1.007	3.300	4.500	14.60	21.40	50.04	45.8	7.9		59.83			1970	79089
		1.00			61.1	16.030	1.008	1.800	---	19.20	25.90	43.89				---	51.6	6.2	1970	79089
		1.00			61.1	16.090	1.012	9.600	9.600	9.10	10.50	52.99				52.99			1970	79089
		1.00			61.1	16.050	1.014	12.75	13.150	4.20	5.30	42.10				45.52			1970	79089

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _o	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi/√in)	K _{app} MEAN	STAN DEV	K _C (Ksi/√in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T7351 Cont'd	Plate Cont'd	1.00	R.T.	L-T Cont'd	61.1	16.050	1.016	14.42	---	2.10	2.50	29.85	Cont'd	Cont'd	---	Cont'd	Cont'd	---	1970	79089
		1.00	Cont'd	Cont'd	61.1	16.030	1.017	6.430	6.600	10.70	15.30	54.09	Cont'd	Cont'd	55.15	Cont'd	Cont'd	1970	79089	
		1.00			57.5	20.000	1.000	7.000	10.000	11.00	24.20	86.90			114.06*			---	57210	
		1.00			57.5	20.000	1.000	7.000	10.790	11.60	23.70	85.11			119.93*			---	57210	
		1.00			57.5	20.000	1.000	7.000	9.950	10.90	23.60	84.75			110.74*			---	57210	
		1.00			57.5	20.000	1.000	7.000	10.000	10.70	23.40	84.03			110.29*			---	57210	
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.80	85.47			111.87			---	57210	
		1.00			60.6	20.000	1.000	7.000	9.970	10.80	23.30	83.67			109.52			---	57210	
		1.00			60.6	20.000	1.000	7.000	10.250	10.60	23.40	84.03			112.78			---	57210	
		1.00			60.6	20.000	1.000	7.000	9.820	11.20	23.80	85.47			110.39			---	57210	
T7351	Plate	1.00	R.T.	L-T	64.6	20.000	1.000	7.000	9.240	10.20	19.40	69.67	77.9	7.3	85.46	96.7	10.9	---	57210	
		1.00			64.6	20.000	1.000	7.000	9.240	---	19.40	69.67			85.46			1973	86213	
		1.00			64.6	20.000	1.000	7.000	9.800	10.00	19.80	71.10			91.67			---	57210	
		1.00			64.6	20.000	1.000	7.000	9.670	---	19.60	70.39			89.70			1973	86213	
		1.00			64.6	20.000	1.000	7.000	9.450	---	20.30	72.90			91.11			1973	86213	
		1.00			64.6	20.000	1.000	7.000	9.800	---	19.70	70.74			91.21			1973	86213	
		1.00			64.6	20.000	1.000	7.000	9.670	10.40	19.60	70.39			89.70			---	57210	
		1.00			64.6	20.000	1.000	7.000	9.450	10.40	20.30	72.90			91.11			---	57210	
		1.00			64.6	20.000	1.000	7.000	9.450	10.40	20.30	72.90			91.11			---	57210	
		1.00			64.6	20.000	1.000	7.000	9.450	10.40	20.30	72.90			91.11			---	57210	

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

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7075

ALUMINUM 7075 K _C																			
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C		DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _e	MAX (Ksi) σ _{max}	K _C (Ksi√in)	K _{app} MEAN	STAN DEV	K _C (Ksi√in)	K _C MEAN			STAN DEV
BUCKLING OF CRACK EDGES NOT RESTRAINED																			
T7351	Plate	0.60	R.T.	L-T	66.0	32.000	0.615	6.400	---	---	23.60	76.73	73.0	5.3	---	---	---	1971	84340
		0.60				32.000	0.617	6.450	---	---	21.20	69.22			---	---	---	---	---
T7351	Plate	0.50	R.T.	L-T	62.1	36.050	0.479	18.14	26.350	7.20	8.50	54.09	---	---	85.38	---	1970	79089	
T7351	Plate	0.50	R.T.	L-T	62.1	36.010	0.486	28.80	---	3.10	3.70	44.74	---	---	---	---	1970	79089	
T7351	Plate	1.00	R.T.	L-T	61.1	36.190	1.011	28.90	31.160	3.70	4.20	50.73	---	---	63.14	---	1970	79089	
T7351	Plate	1.00	R.T.	L-T	61.1	36.130	1.017	17.00	19.160	7.90	10.20	61.31	---	---	69.23	---	1970	79089	
T7351	Plate	1.00	R.T.	L-T	61.1	36.120	1.026	7.110	9.480	---	17.00	58.21	---	---	68.54	---	1970	79089	
T7351	Sheet	0.12	R.T.	T-L	63.6	3.000	0.114	1.080	1.460	15.10	34.20	48.48*	---	---	60.96*	---	1973	86213	
T7351	Sheet	0.12	R.T.	T-L	54.0	3.000	0.124	1.000	1.720	17.50	33.60	45.25*	---	---	70.08*	---	---	1973	86213
		0.12				3.000	0.124	1.000	1.600	17.60	34.70	46.73*			63.34*			1973	86213
		0.12				3.000	0.124	1.120	1.630	15.30	32.30	46.94*			63.75*			1973	86213
		0.12				3.000	0.124	1.000	1.590	15.10	35.30	47.54*			68.00*			1973	86213
		0.12				3.000	0.125	1.000	1.840	16.70	32.90	44.31*			74.04*			1973	86213
		0.12				3.000	0.125	1.090	1.720	14.90	31.80	45.36*			66.32*			1973	86213
		0.12				3.000	0.125	1.100	1.700	18.00	32.40	46.51*			66.74*			1973	86213
		0.12				3.000	0.125	1.160	1.600	15.10	31.50	46.92*			61.05*			1973	86213
		0.12				3.000	0.126	1.090	1.480	16.70	34.20	48.78*			61.69*			1973	86213
		0.12				3.000	0.127	1.000	1.420	15.80	35.10	47.27*			61.10*			1973	86213
		0.12				3.000	0.127	1.000	1.410	17.30	35.30	47.54*			61.09*			1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 90% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONTINUED)

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (Ksi)	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}			K _C			DATE	REFER	
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (Ksi) σ _o	MAX (Ksi) σ _{max}	K _{app} (Ksi/in)	K _{app} MEAN	STAN DEV	K _C (Ksi/in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACKED EDGES NOT RESTRAINED																				
T7351	Plate	0.25	R.T.	T-L	59.4	3.000	0.252	1.170	1.620	---	30.80	46.16*	---	---	---	60.42*	---	1973	86213	
		0.25			59.4	3.000	0.252	1.110	1.580	---	31.60	45.64*				60.51*		1973	86213	
		0.25			59.4	3.000	0.253	1.090	1.600	---	32.10	45.79*				62.21*		1973	86213	
		0.25			59.4	3.000	0.253	1.160	1.570	---	31.00	46.18*				59.00*		---	1973	86213
		0.25			59.4	3.000	0.253	1.110	1.560	---	31.70	45.75*				59.98*		---	1973	86213
		0.25			59.4	3.000	0.253	1.080	1.530	---	32.60	46.21*				60.59*		---	1973	86213
T7351	Plate	0.25	R.T.	T-L	59.0	4.000	0.248	1.480	1.900	---	33.60	56.04*	---	---	---	67.74*	1973	86213		
		0.25			59.0	4.000	0.248	1.450	1.900	---	34.50	56.73*				69.55*	1973	86213		
		0.25			59.4	3.990	0.251	1.710	2.400	---	26.90	49.86				68.24*	1973	86213		
T7351	Plate	1.00	R.T.	T-L	63.6	20.000	1.000	7.000	8.910	---	11.00	39.50	39.3	0.7	46.5	47.05	1973	86213		
		1.00			63.6	20.000	1.000	7.000	8.650	---	10.70	38.42				44.72	1973	86213		
		1.00			63.6	20.000	1.000	7.000	8.790	---	11.20	40.22				47.40	1973	86213		
		1.00			63.6	20.000	1.000	7.000	8.920	---	10.90	39.14				46.66	1973	86213		
T7351	Plate	0.50	R.T.	T-L	62.1	36.070	0.497	7.310	---	---	15.10	52.50	---	---	---	1970	79089			
T76	Sheet	0.06	R.T.	L-T	73.6	3.000	0.064	1.210	2.127	---	37.60	57.74*	---	---	---	103.37*	1973	86213		
		0.06			73.6	3.000	0.064	1.170	2.082	---	37.10	55.60*				98.67*	1973	86213		
T76	Sheet	0.09	R.T.	L-T	72.5	3.000	0.094	1.180	1.863	---	33.50	50.52	---	---	---	75.98*	1973	86213		
		0.09			72.5	3.000	0.094	1.160	2.071	---	35.80	53.33*				94.37*	1973	86213		

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

TABLE 8.9.2.2 (CONCLUDED)

31 of 31

ALUMINUM 7075 K _C																				
CONDITION HEAT TREAT	PRODUCT		TEST TEMP (°F)	SPEC OR	YIELD STR (K _{sat})	SPECIMEN		CRACK LENGTH		GROSS STRESS		K _{app}				K _C			DATE	REFER
	FORM	THICK (in.)				WIDTH (in.) W	THICK (in.) B	INIT (in.) 2a _i	FINAL (in.) 2a _f	ONSET (K _{sat}) σ _o	MAX (K _{sat}) σ _{max}	K _{app} (K _{sat} √in)	K _{app} MEAN	STAN DEV	K _C (K _{sat} √in)	K _C MEAN	STAN DEV			
BUCKLING OF CRACK EDGES NOT RESTRAINED																				
T76	Sheet	0.12	R.T.	L-T	72.2	3.000	0.127	1.260	2.121	---	33.40	52.86	---	---	91.40*	---	---	---	1973	86213
		0.12			72.2	3.000	0.127	1.100	2.027	---	37.10	53.25*			94.73*				1973	86213
T76	Sheet	0.06	R.T.	T-L	71.8	3.000	0.064	1.220	1.937	---	31.30	48.36	49.1	1.1	75.06*	---	---	---	1973	86213
		0.06			71.8	3.000	0.064	1.180	1.893	---	33.10	49.91			77.07*				1973	86213
T76	Sheet	0.09	R.T.	T-L	71.6	3.000	0.093	1.140	1.907	---	33.20	48.85	48.5	0.5	78.03*	---	---	---	1973	86213
		0.09			71.6	3.000	0.093	1.220	1.987	---	31.20	48.20			77.44*				1973	86213
T76	Sheet	0.12	R.T.	T-L	70.8	3.000	0.126	1.150	1.837	---	33.40	49.45	49.3	0.2	74.97*	---	---	---	1973	86213
		0.12			70.8	3.000	0.126	1.230	1.952	---	31.60	49.12			76.62*				1973	86213
T7651	Plate	0.25	R.T.	L-T	72.0	4.000	0.250	1.523	2.650	---	31.20	53.06	53.6	0.8	89.52*	---	---	---	1973	86213
		0.25			72.0	4.000	0.251	1.563	2.614	---	31.30	54.22			83.79*				1973	86213
T7651	Plate	0.25	R.T.	T-L	71.1	4.000	0.251	1.553	2.548	---	24.80	42.76	42.4	0.5	67.53*	---	---	---	1973	86213
		0.25			71.1	4.000	0.251	1.530	2.388	---	24.60	41.99			61.94*				1973	86213

* NOTE: NET SECTION STRESS EXCEEDS 80% OF YIELD STRENGTH. VALUE NOT INCLUDED IN MEAN OR STANDARD DEVIATION.

RESISTANCE CURVE

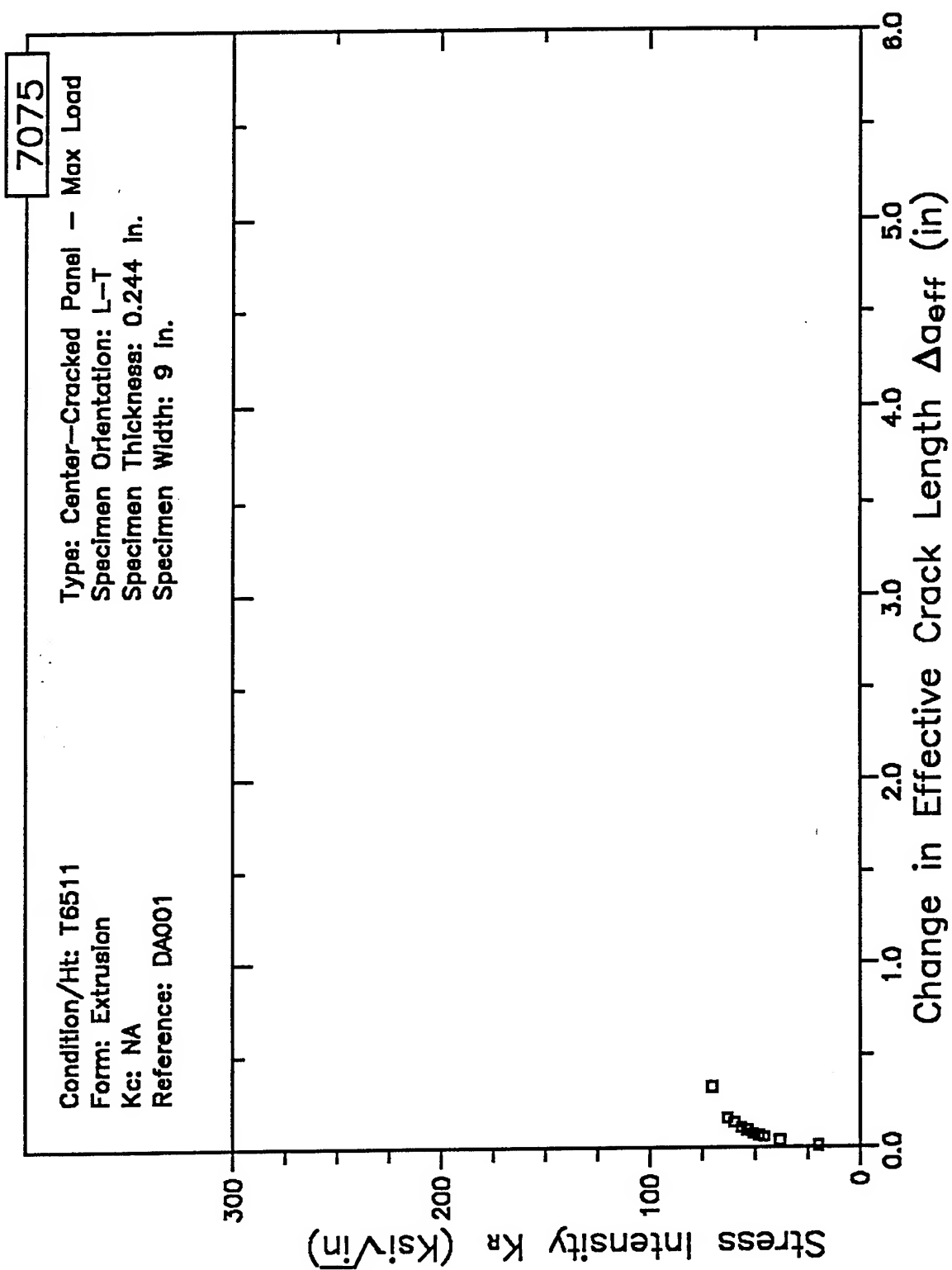


Figure 8.9.2.3.1

RESISTANCE CURVE

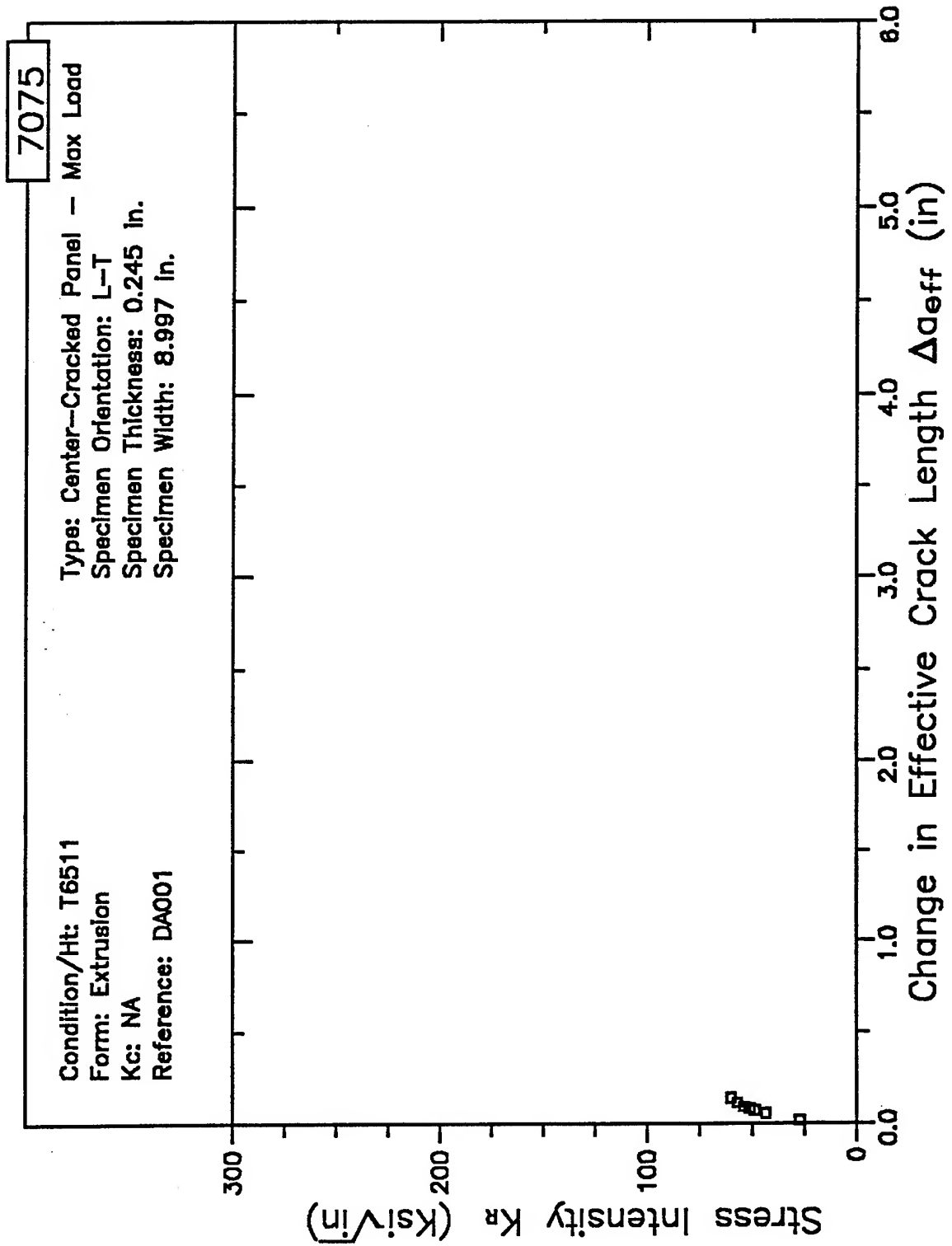


Figure 8.9.2.3.2

RESISTANCE CURVE

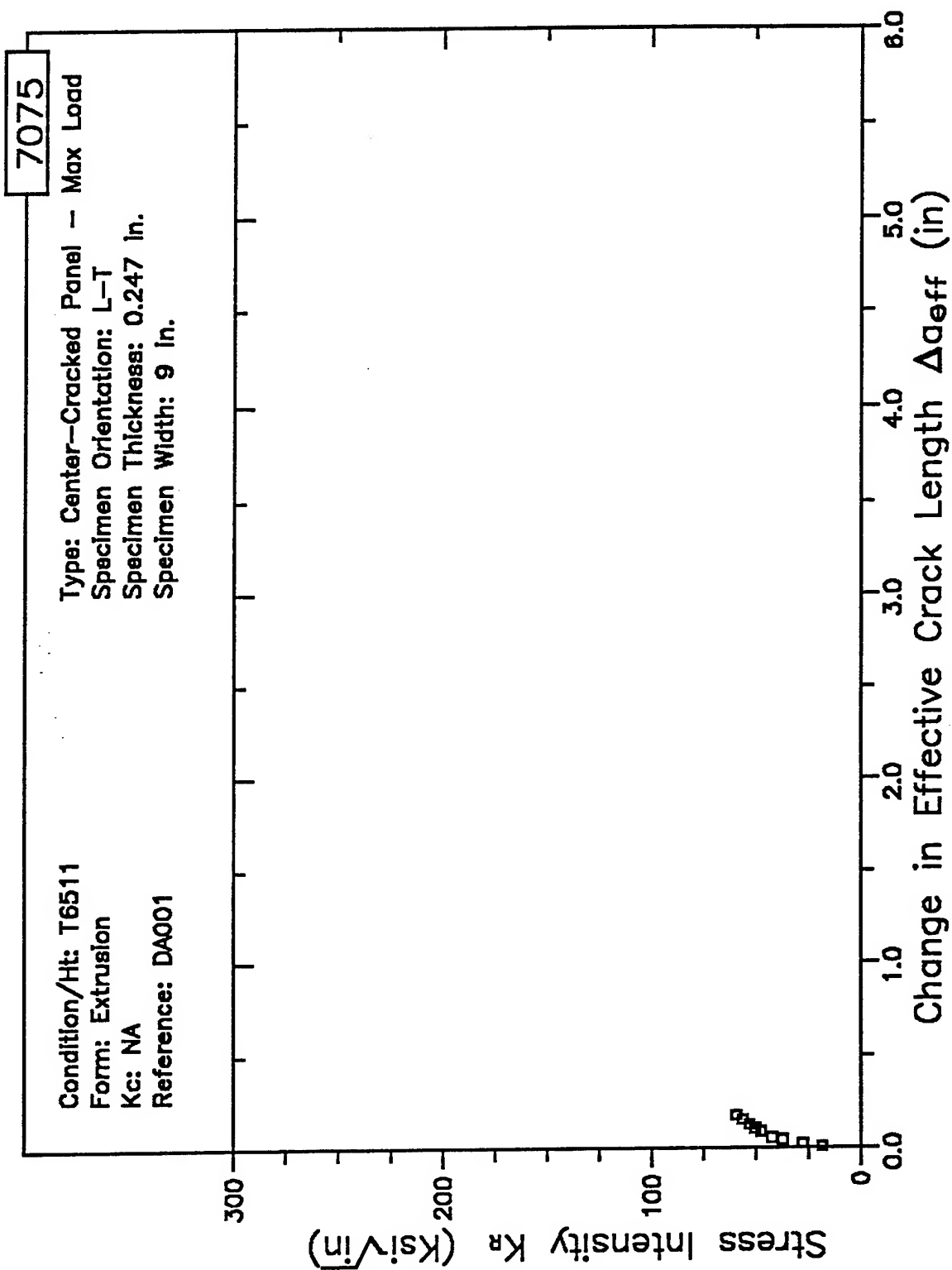


Figure 8.9.2.3.3

RESISTANCE CURVE

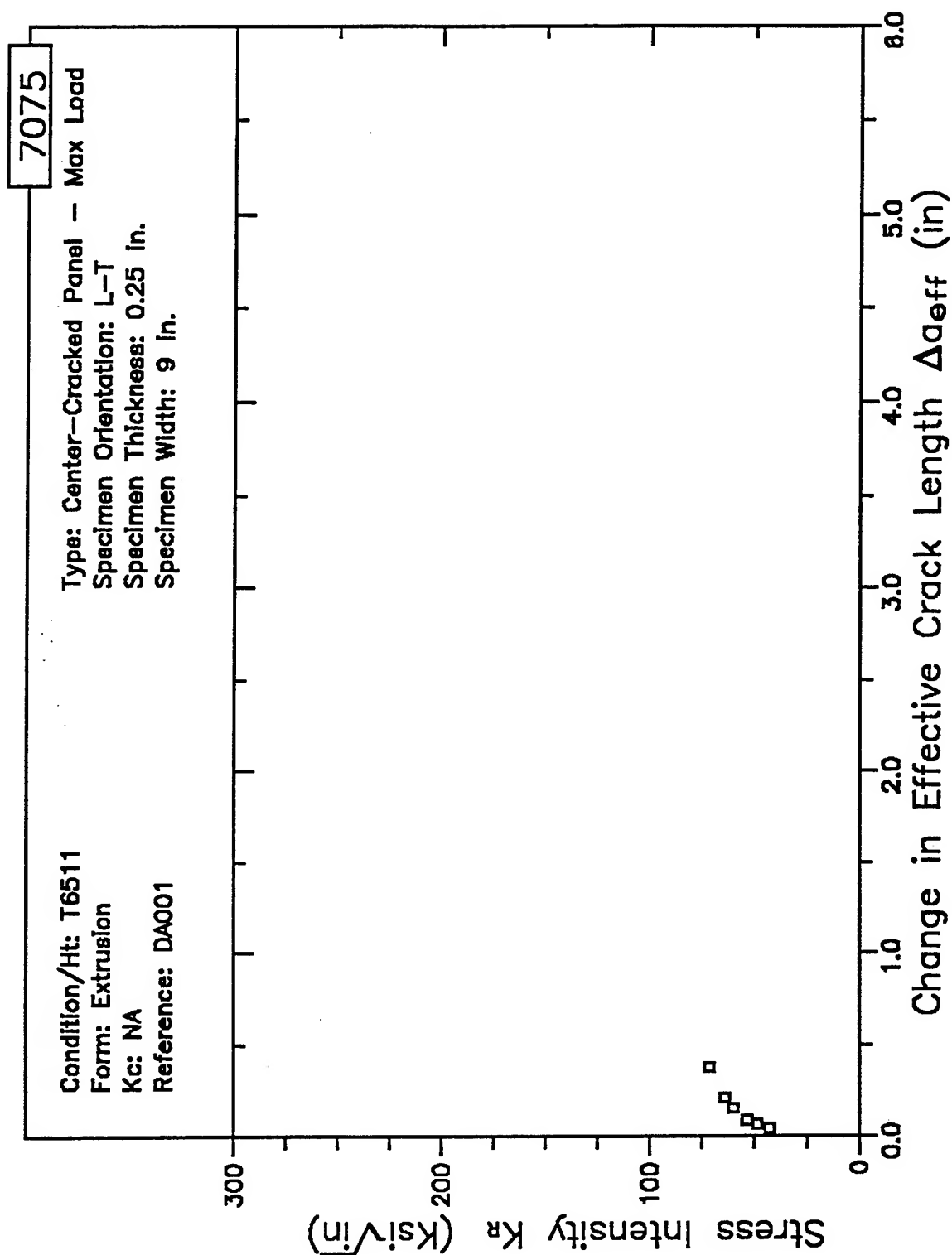


Figure 8.9.2.3.4

RESISTANCE CURVE

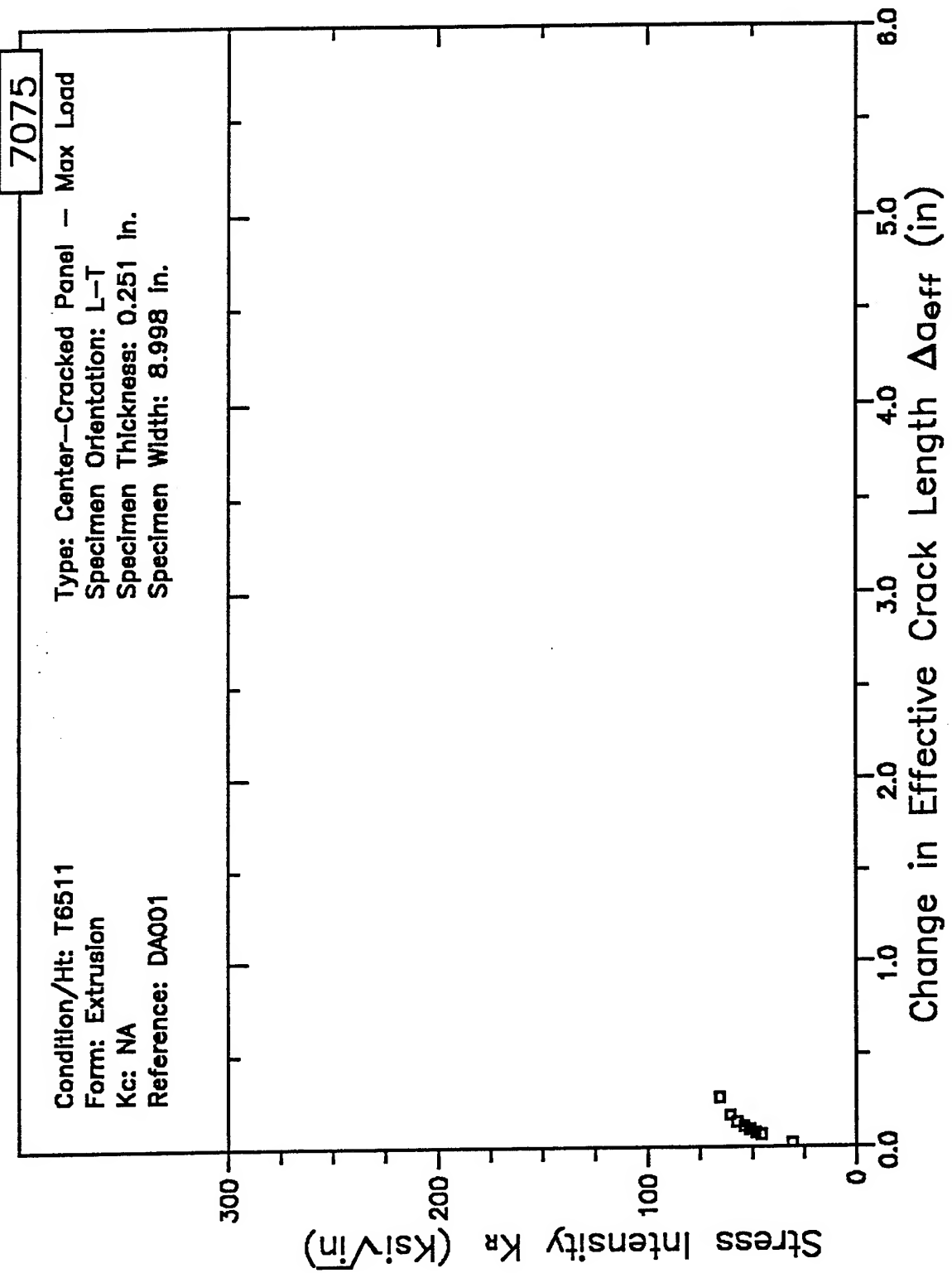


Figure 8.9.2.3.5

RESISTANCE CURVE

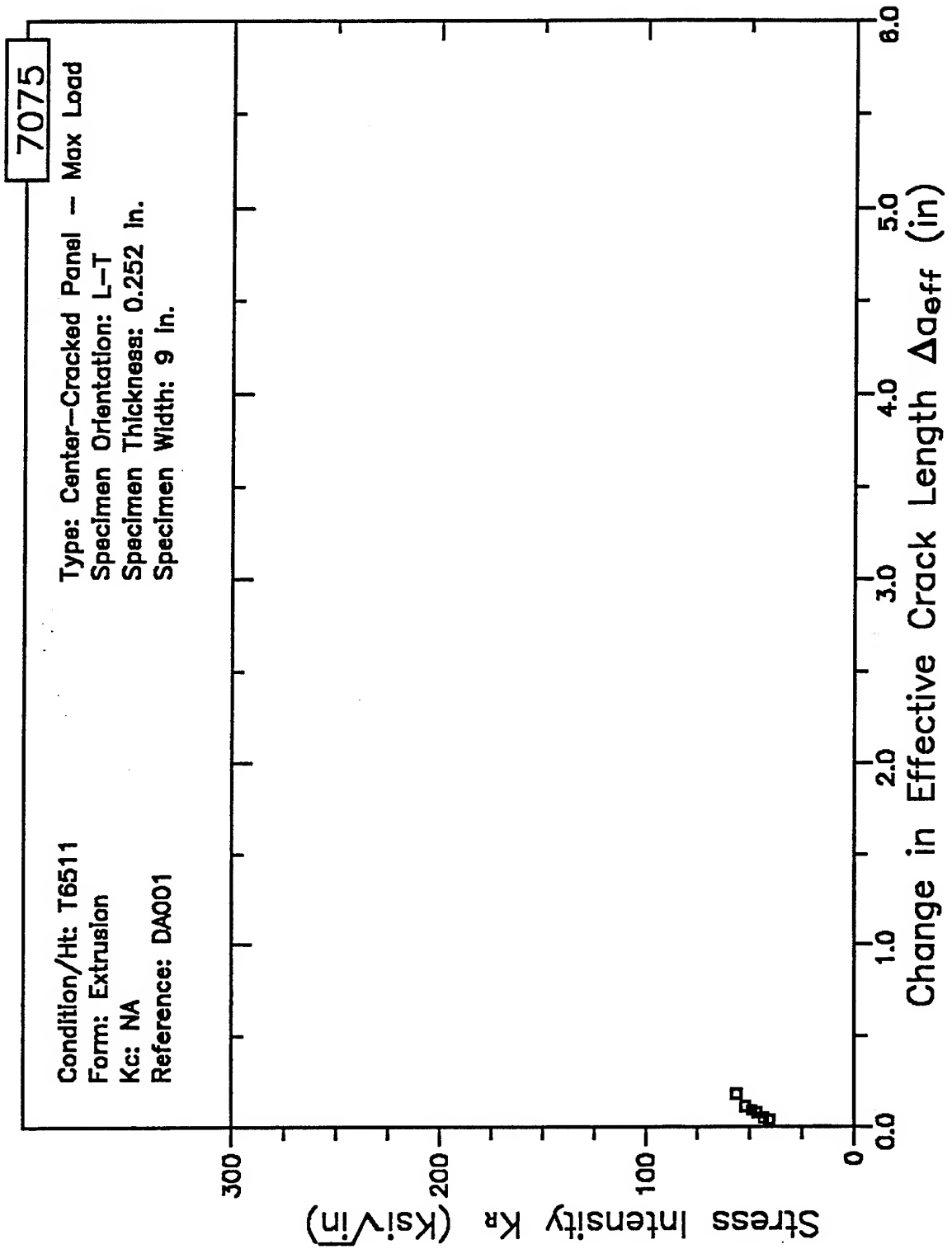


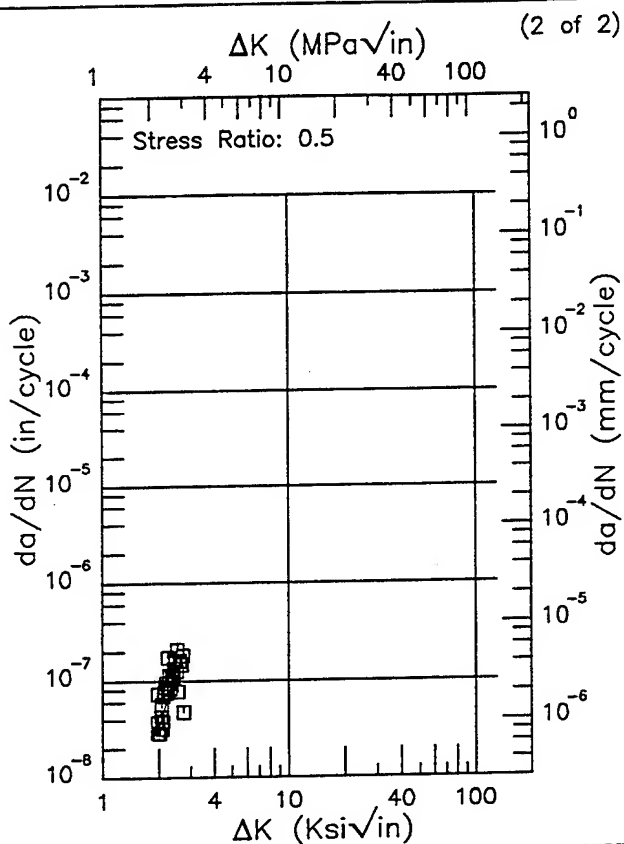
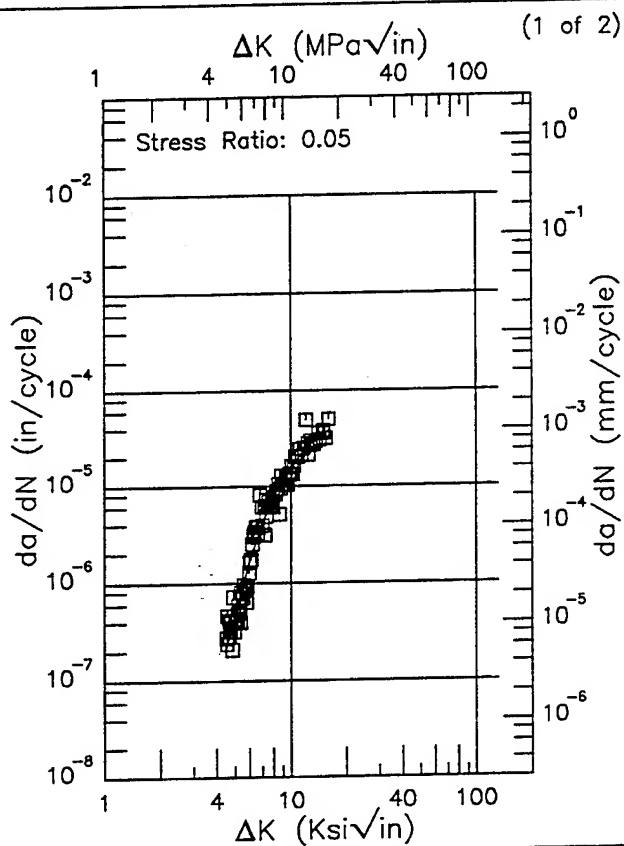
Figure 8.9.2.3.6

R

7075

Condition/Ht: T6
 Form: 0.2 in. Sheet
 Specimen Type: CT
 Orientation: L-T
 Frequency: 9 Hz
 Environment: H.H.A.; RT

Yield Strength: 75.8 ksi
 Ult. Strength: 81.2 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 3.75 in.
 Ref: BW001



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.49 (min)	0.220
5.	0.481
6.	1.68
7.	4.19
8.	7.94
9.	12.0
10.	15.9
13.	28.4
15.95 (max)	38.2

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
1.98 (min)	0.0317
2.	0.0335
2.5	0.129
2.72 (max)	0.142

RMS %
 Error
 31.35

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 48.67

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.1

Condition/Ht: T6
 Form: 0.2 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 1 Hz
 Environment: LAB AIR; RT

Yield Strength: 76.6 – 79.9 ksi
 Ult. Strength: 83.3 – 86.7 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 11.5 in.
 Ref: 86088

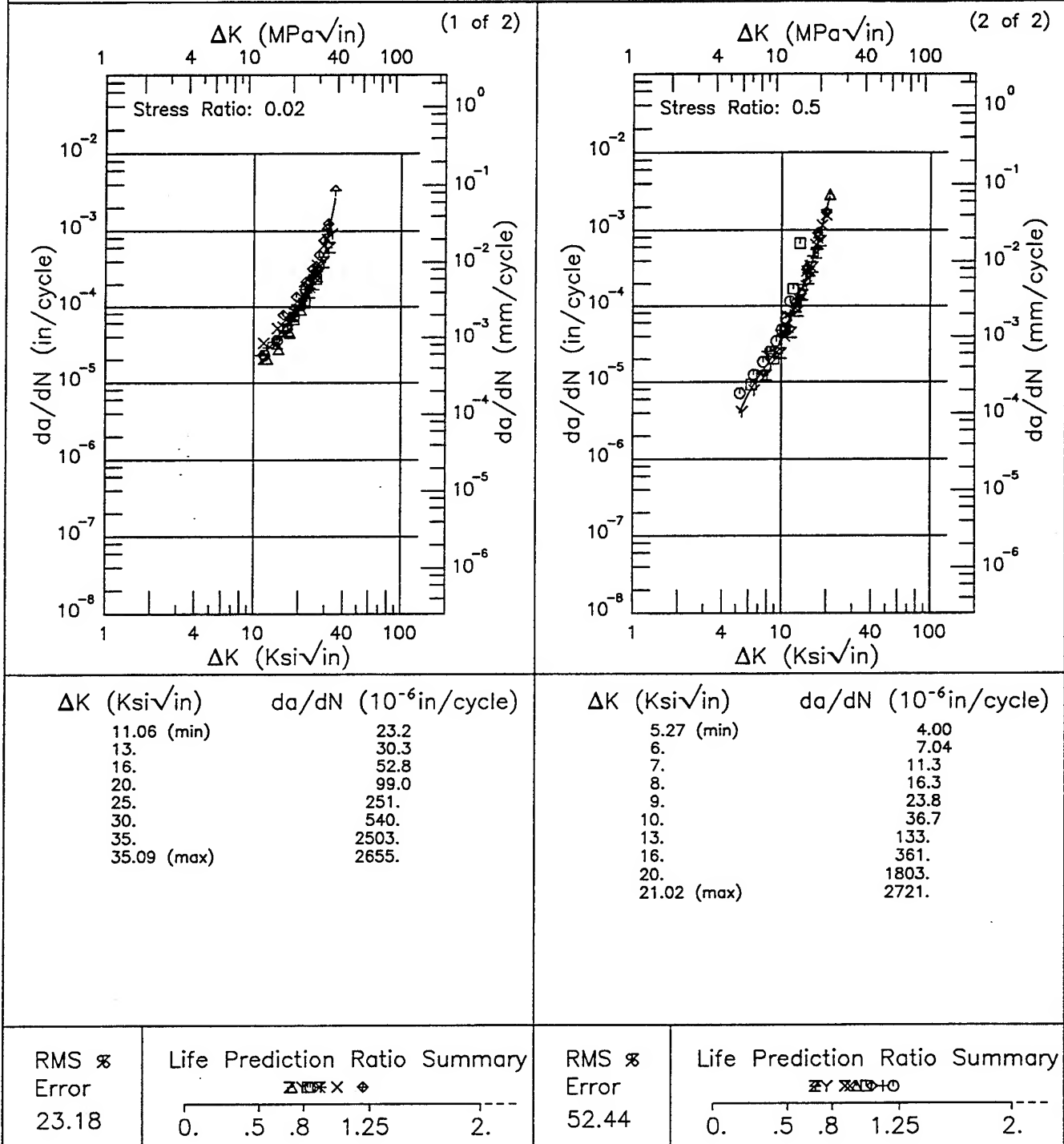


Figure 8.9.3.1.2

R

7075

Condition/Ht: T6
 Form: 0.2 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 3 Hz
 Environment: LAB AIR; RT

Yield Strength: 78.6 ksi
 Ult. Strength: 86.3 ksi
 Specimen Thk: 0.2 in.
 Specimen Width: 11.5 in.
 Ref: 86088

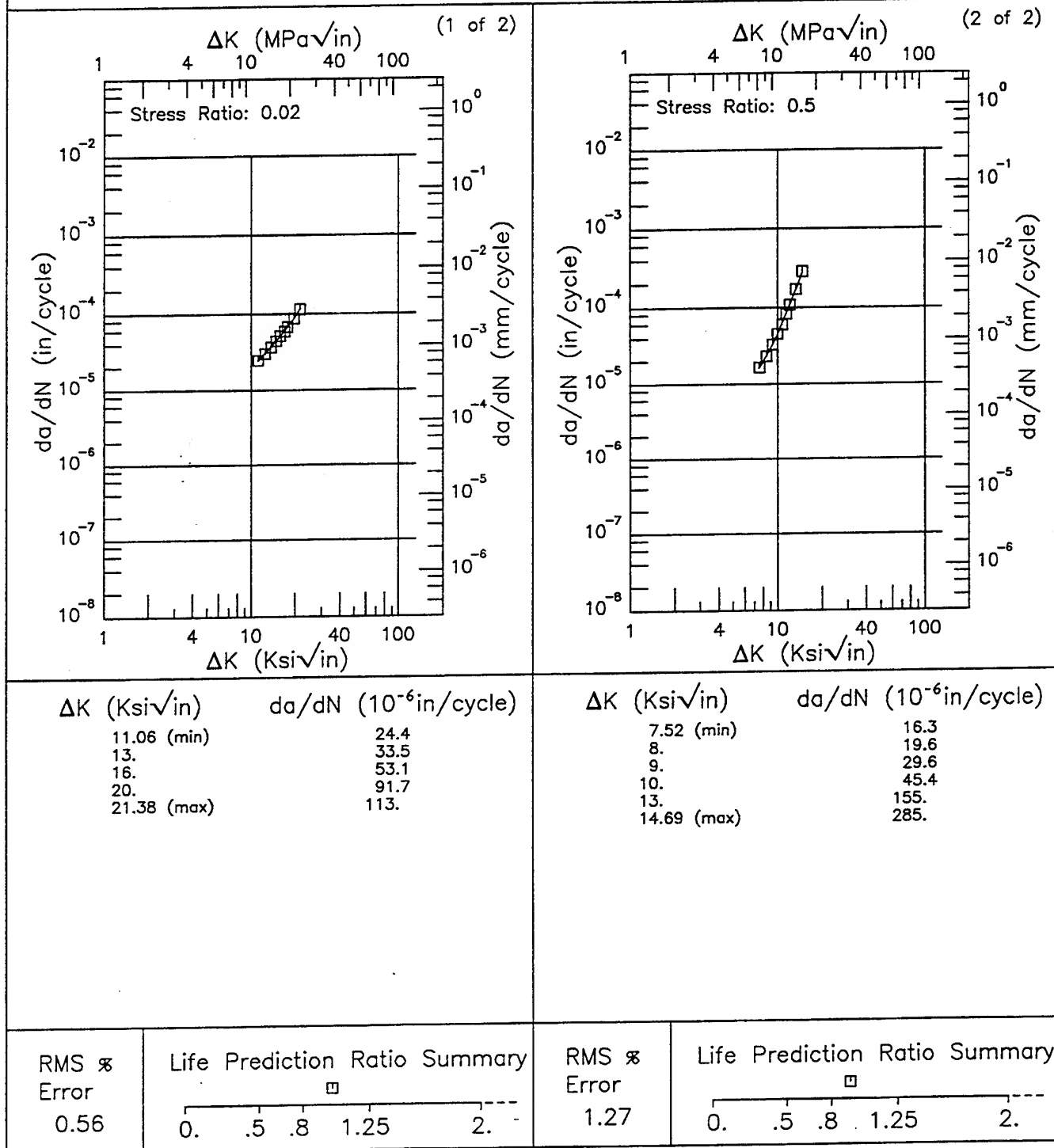


Figure 8.9.3.1.3

Condition/Ht: T6
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 74.7 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.04 in.
 Specimen Width: 3.9 in.
 Ref: MA009

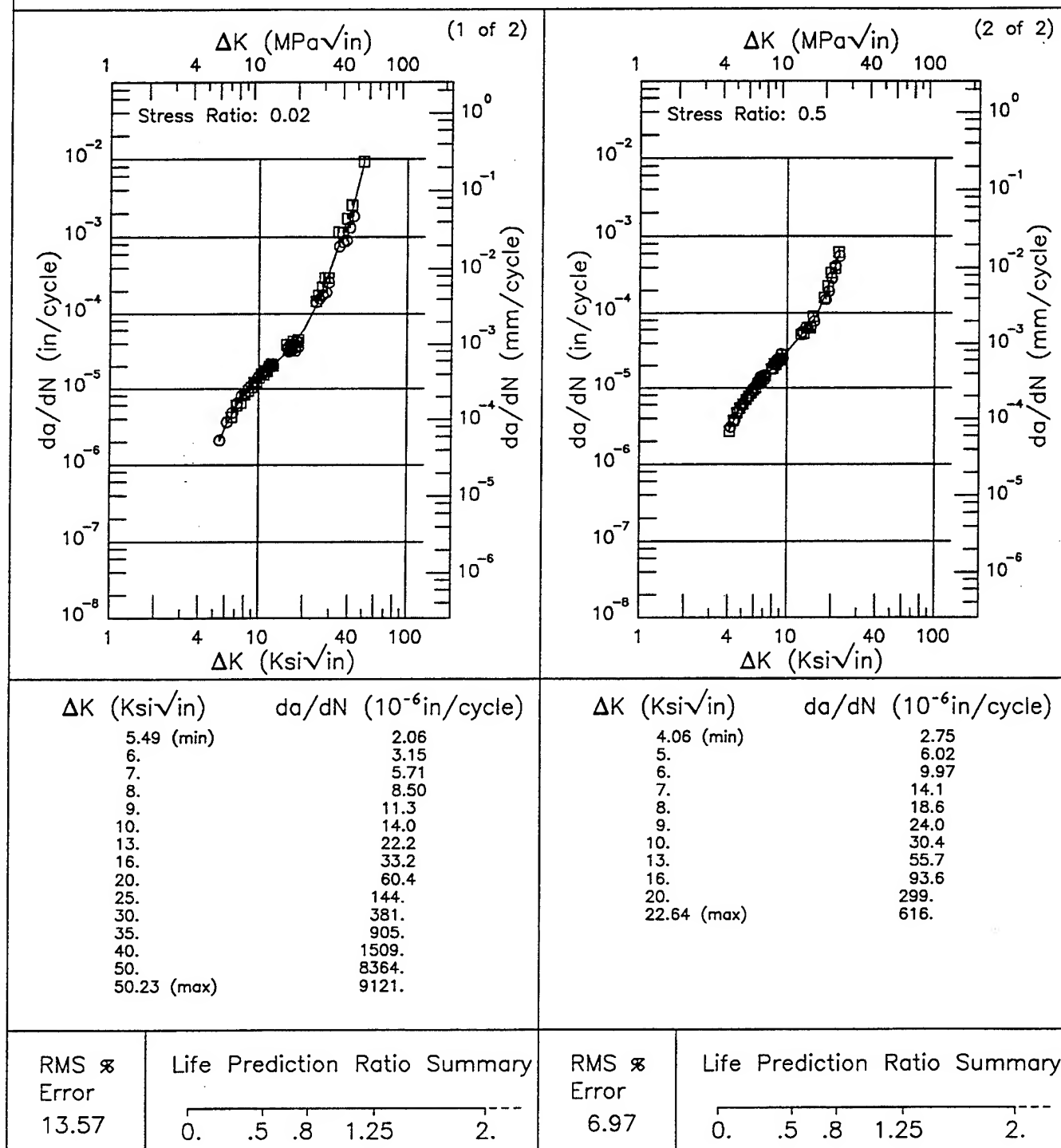
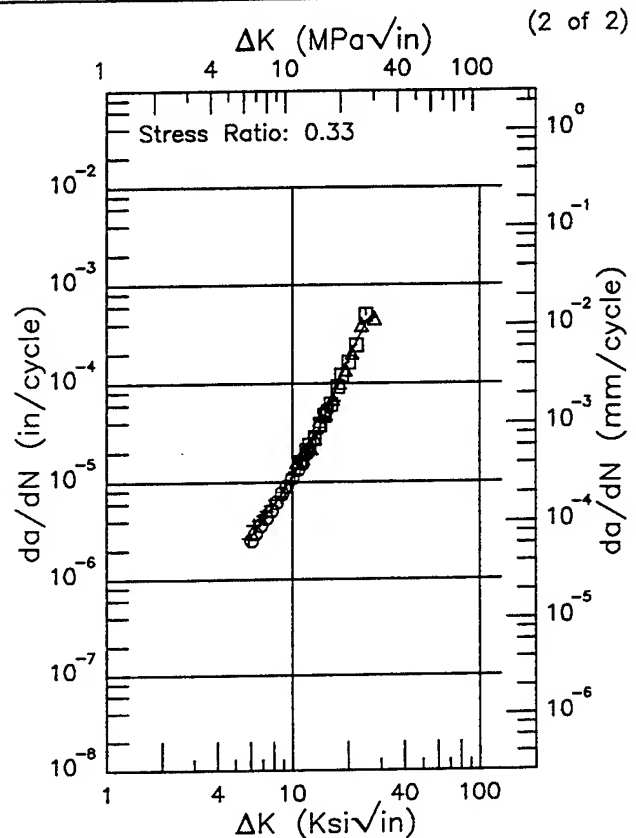
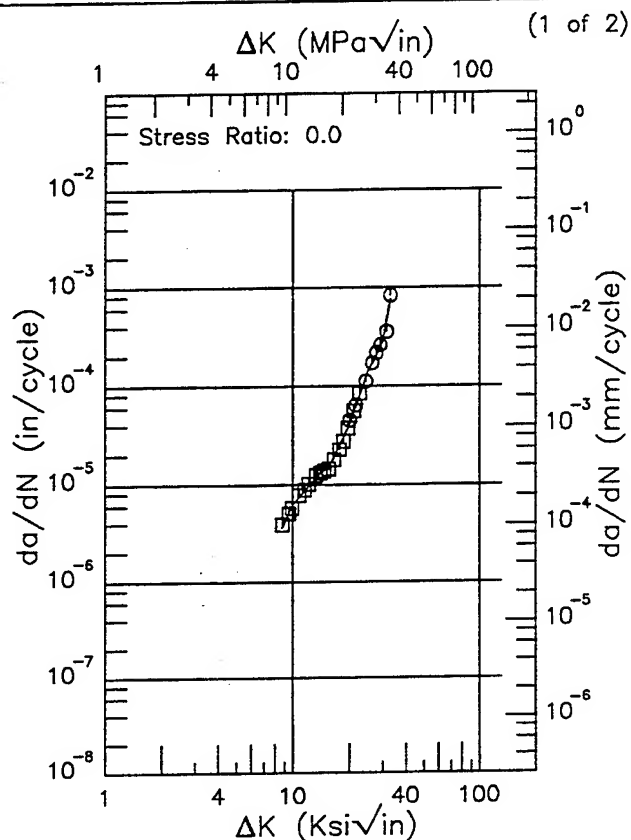


Figure 8.9.3.1.4

R | 7075 |

Condition/Ht: T6
 Form: 0.09 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 13.3 Hz
 Environment: LAB AIR; RT

Yield Strength: 71.6 ksi
 Ult. Strength: 80.1 ksi
 Specimen Thk: 0.09 in.
 Specimen Width: 4 in.
 Ref: 86213



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
8.77 (min)	3.61
9.	4.12
10.	6.28
13.	11.1
16.	17.2
20.	40.7
25.	142.
30.	282.
32.86 (max)	758.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.85 (min)	2.55
6.	2.74
7.	4.20
8.	6.01
9.	8.29
10.	11.2
13.	26.1
16.	60.1
20.	175.
25.	425.
27.54 (max)	515.

RMS %
 Error
 7.33

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 8.54

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.5

Condition/Ht: T6
 Form: Sheet
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 9 Hz
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.163 in.
 Specimen Width: 5 in.
 Ref: BW002

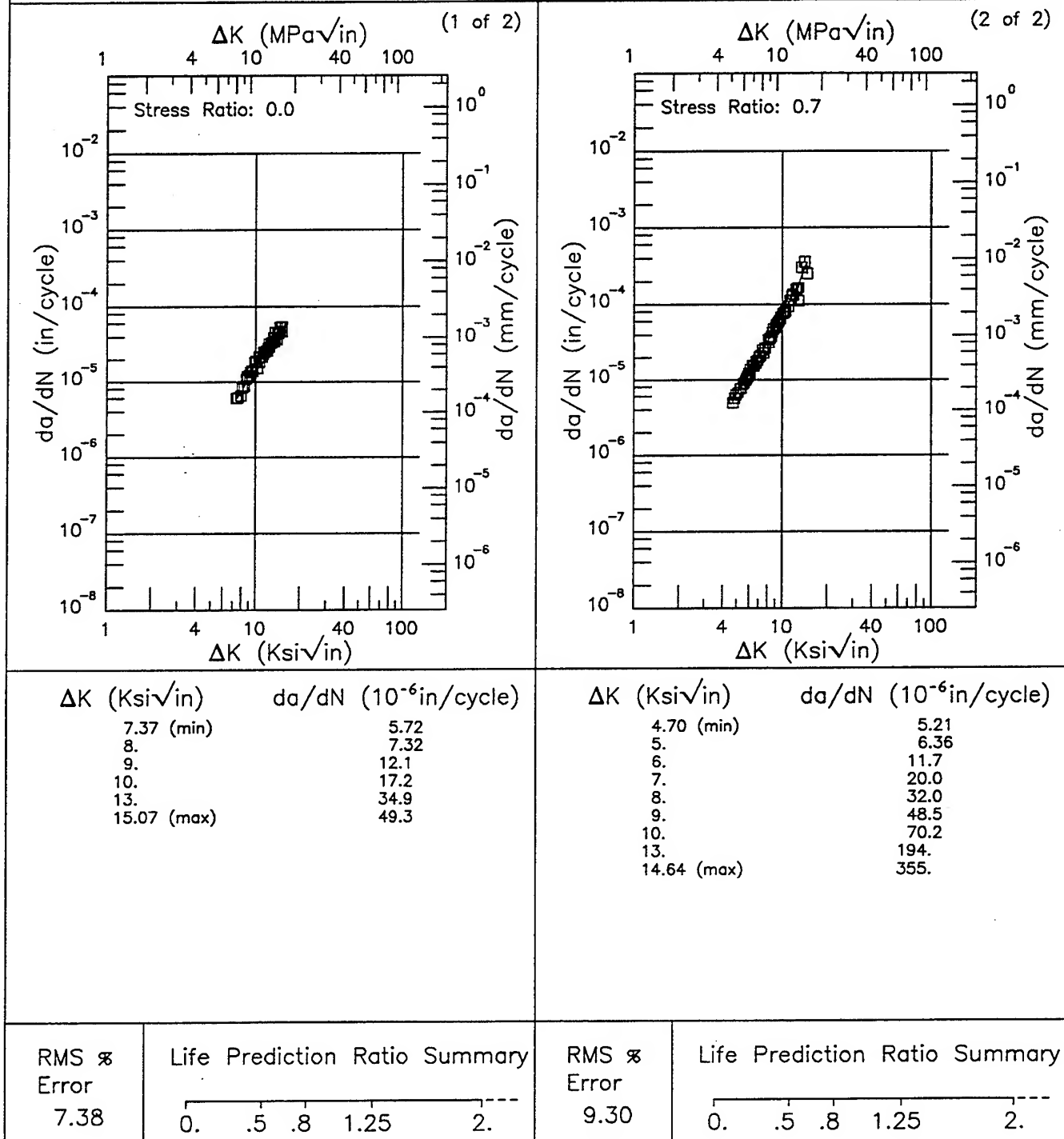


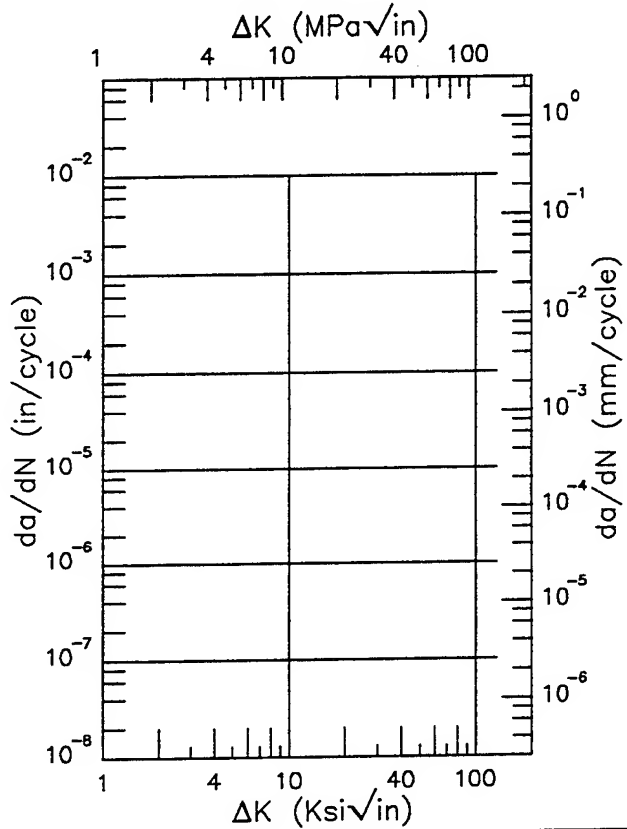
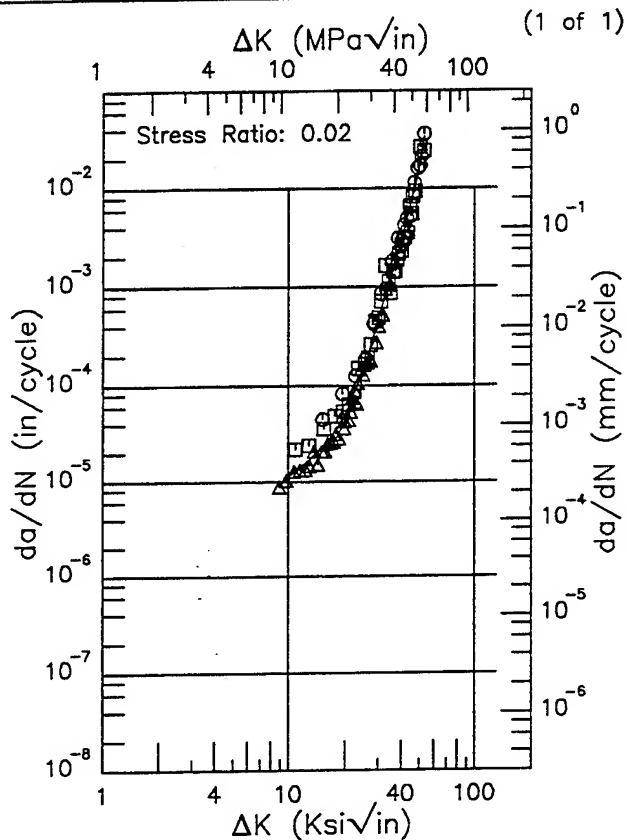
Figure 8.9.3.1.6

R

7075

Condition/Ht: T6
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.04 in.
 Specimen Width: 3.9 in.
 Ref: MA008



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
8.90 (min)	9.23
9.	9.43
10.	11.3
13.	17.0
16.	25.5
20.	49.5
25.	142.
30.	450.
35.	1260.
40.	2886.
50.	15863.
53.14 (max)	33815.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 28.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.7

Condition/Ht: T6
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.02 in.
 Specimen Width: 3.9 in.
 Ref: MA008

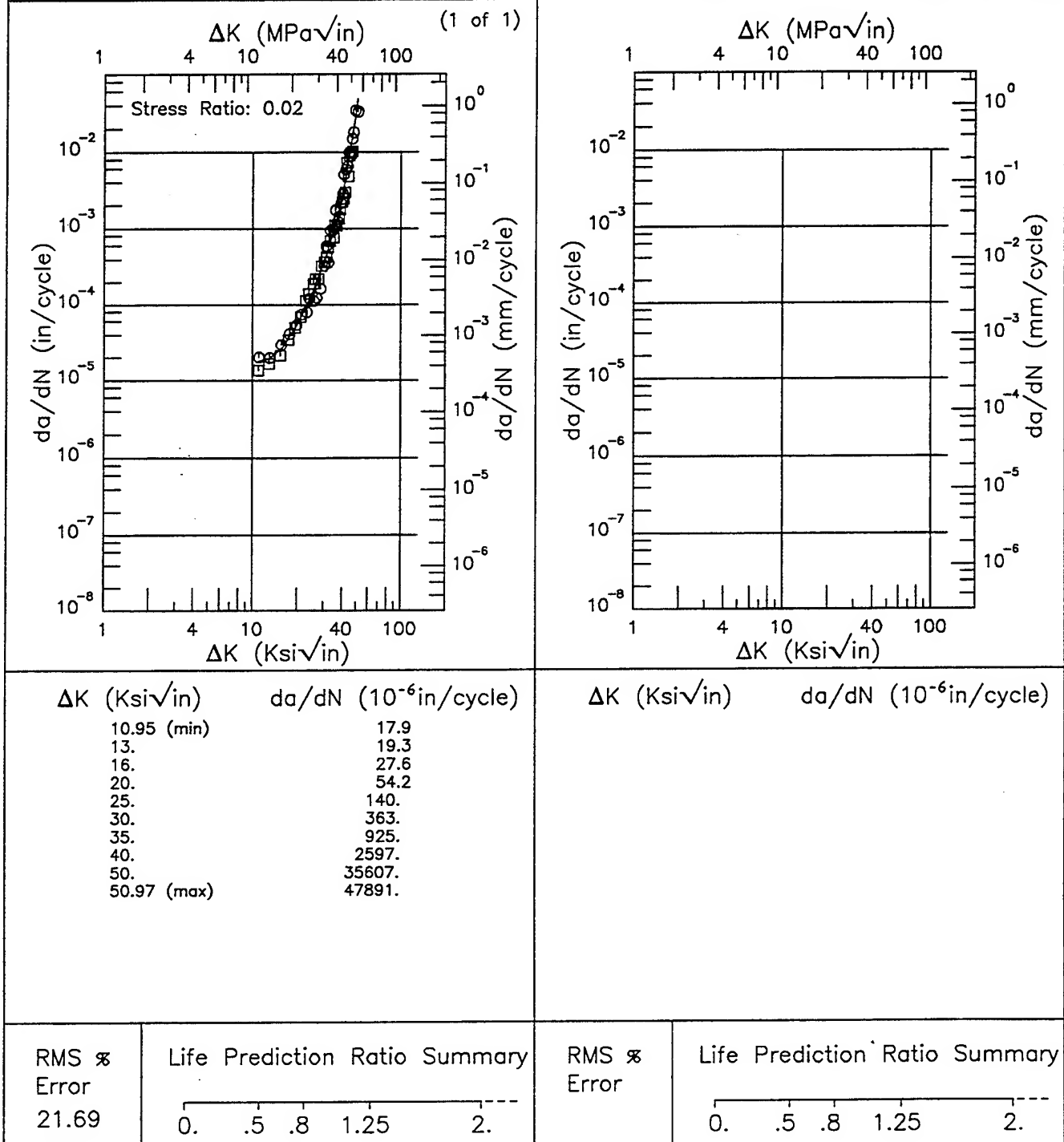


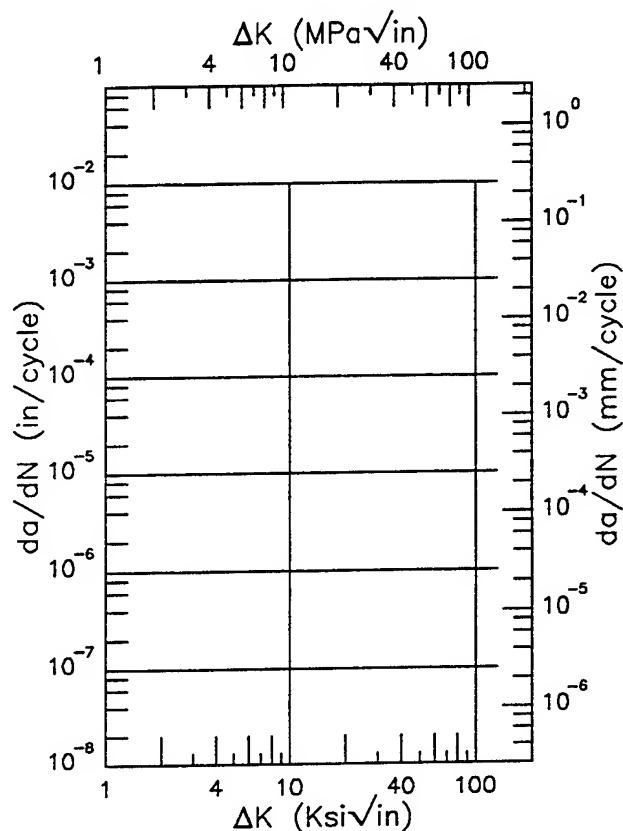
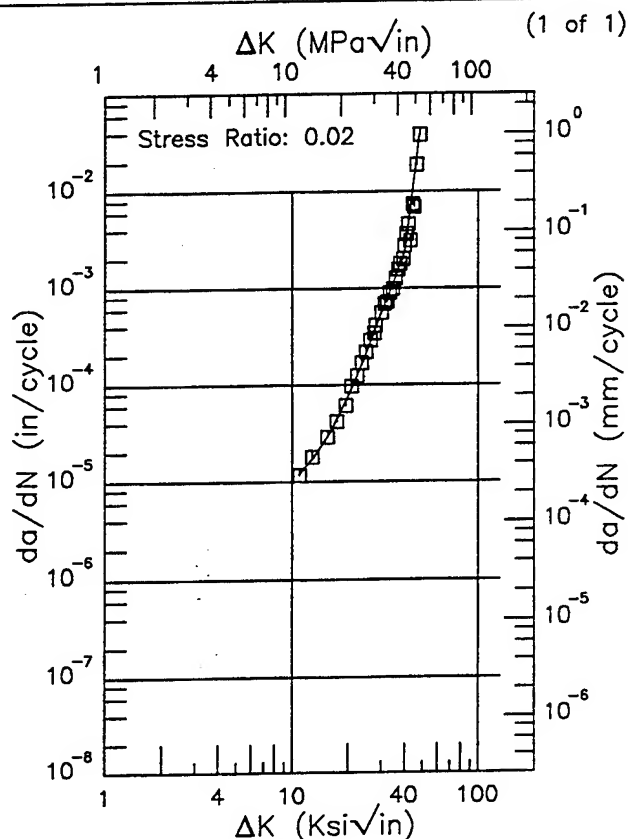
Figure 8.9.3.1.8

R

7075

Condition/Ht: T6
 Form: 0.13 in. Sheet
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 74.5 ksi
 Ult. Strength: 80 ksi
 Specimen Thk: 0.08 in.
 Specimen Width: 3.9 in.
 Ref: MA008



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
10.91 (min)	12.0
13.	17.5
16.	32.2
20.	75.5
25.	213.
30.	543.
35.	1165.
40.	2397.
47.98 (max)	37746.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
---------------------	-------------------------------

RMS %
 Error
 15.76

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.9

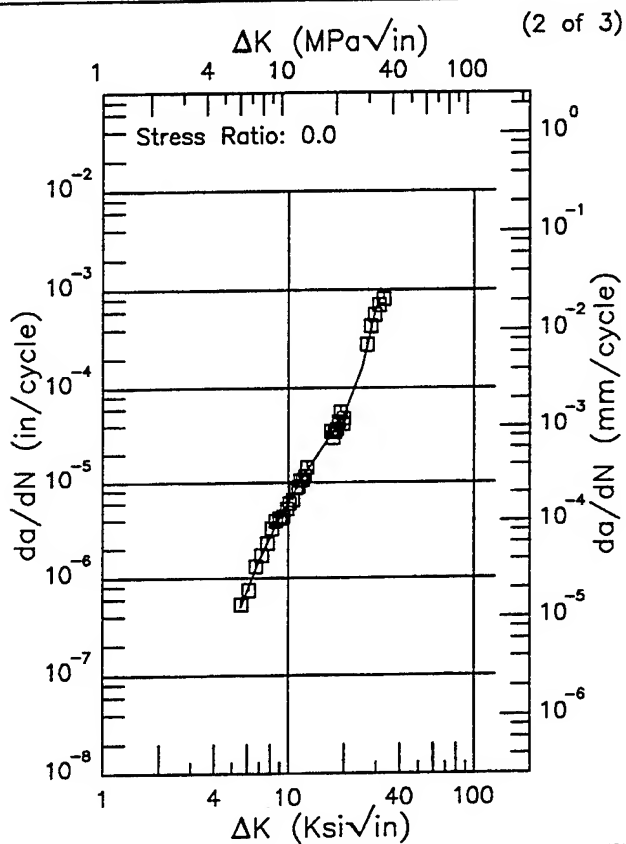
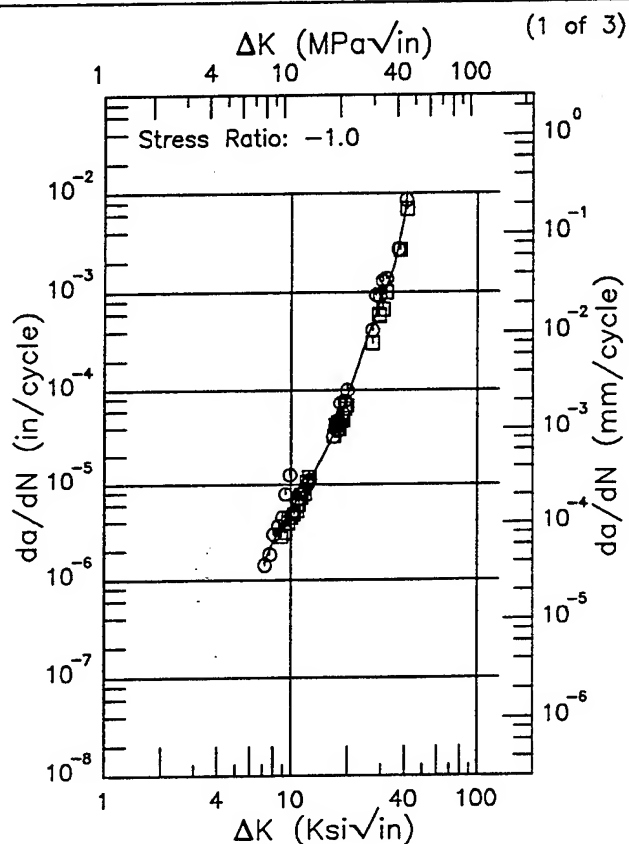
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R

7075

Condition/Ht: T6
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: L.H.A.; RT

Yield Strength: 80 ksi
 Ult. Strength: 88 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
7.21 (min)	1.50
8.	2.46
9.	3.88
10.	5.48
13.	12.2
16.	27.3
20.	89.1
25.	323.
30.	849.
35.	1825.
40.	5920.
41.22 (max)	9215.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.56 (min)	0.504
6.	0.737
7.	1.51
8.	2.66
9.	4.21
10.	6.17
13.	14.4
16.	26.3
20.	52.0
25.	157.
30.	677.
32.61 (max)	735.

RMS %
 Error
 28.63

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 9.21

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.10

Condition/Ht: T6
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: L.H.A.; RT

Yield Strength: 80 ksi
 Ult. Strength: 88 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007

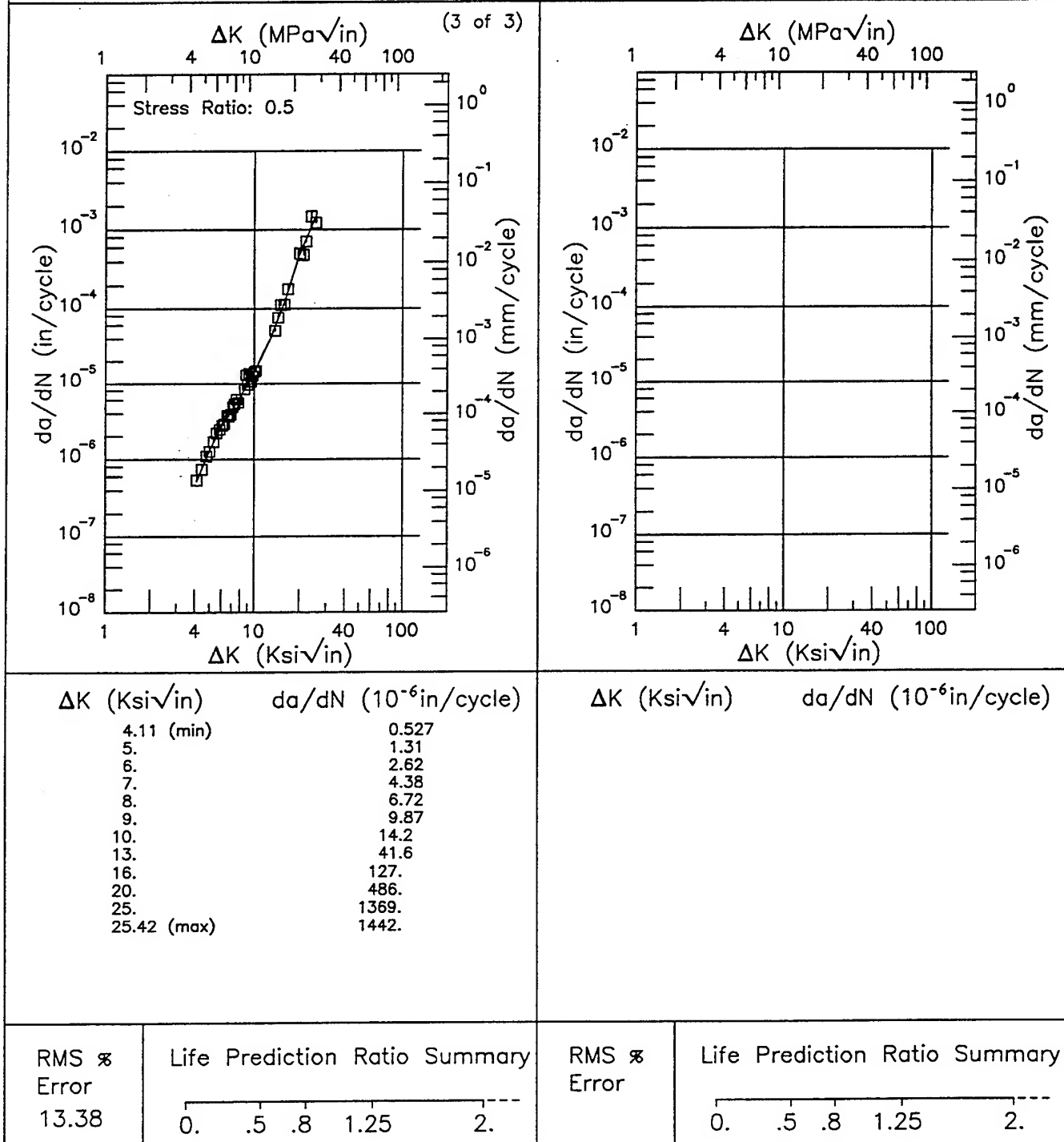
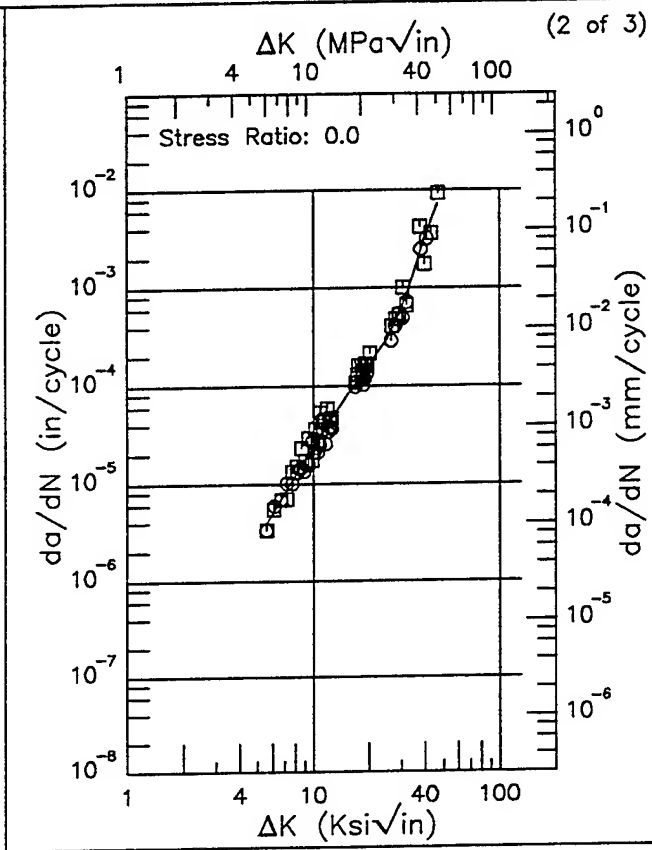
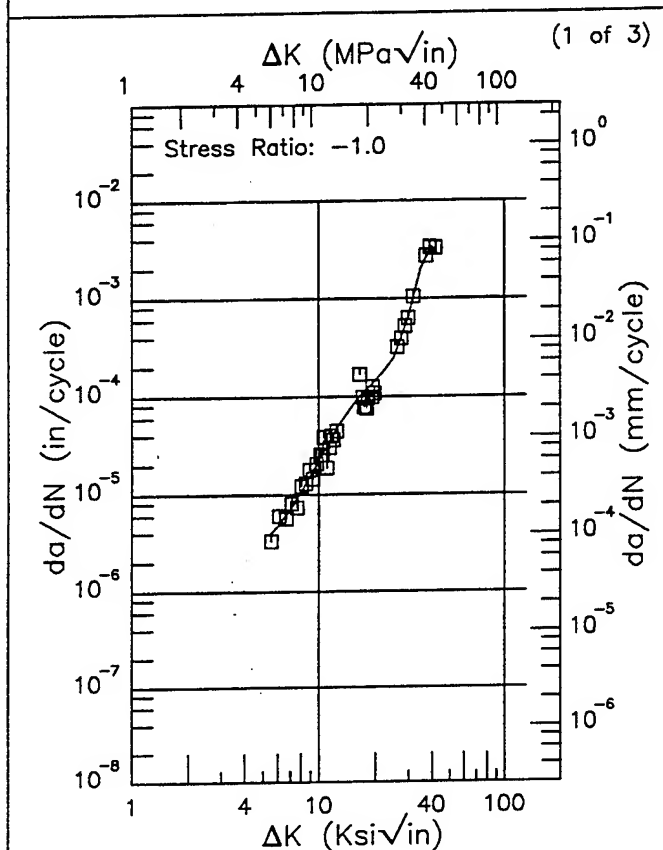


Figure 8.9.3.1.10 (Concluded)

R 7075

Condition/Ht: T6
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 0.1 Hz
 Environment: 3.5% NaCl; RT

Yield Strength: 80 ksi
 Ult. Strength: 88 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007

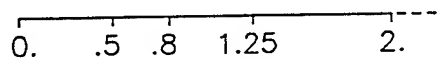


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.52 (min)	3.91
6.	4.68
7.	7.02
8.	10.6
9.	15.6
10.	22.3
13.	52.9
16.	93.7
20.	144.
25.	248.
30.	646.
35.	2069.
40.	3343.
41.89 (max)	3015.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.55 (min)	3.84
6.	4.94
7.	8.06
8.	12.2
9.	17.5
10.	24.0
13.	51.2
16.	90.4
20.	161.
25.	295.
30.	593.
35.	1385.
40.	3255.
46.80 (max)	7167.

RMS %
 Error
 20.56

Life Prediction Ratio Summary



RMS %
 Error
 25.17

Life Prediction Ratio Summary

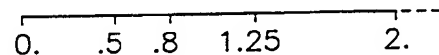


Figure 8.9.3.1.11

Condition/Ht: T6
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 0.1 Hz
 Environment: 3.5% NACL; RT

Yield Strength: 80 ksi
 Ult. Strength: 88 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA007

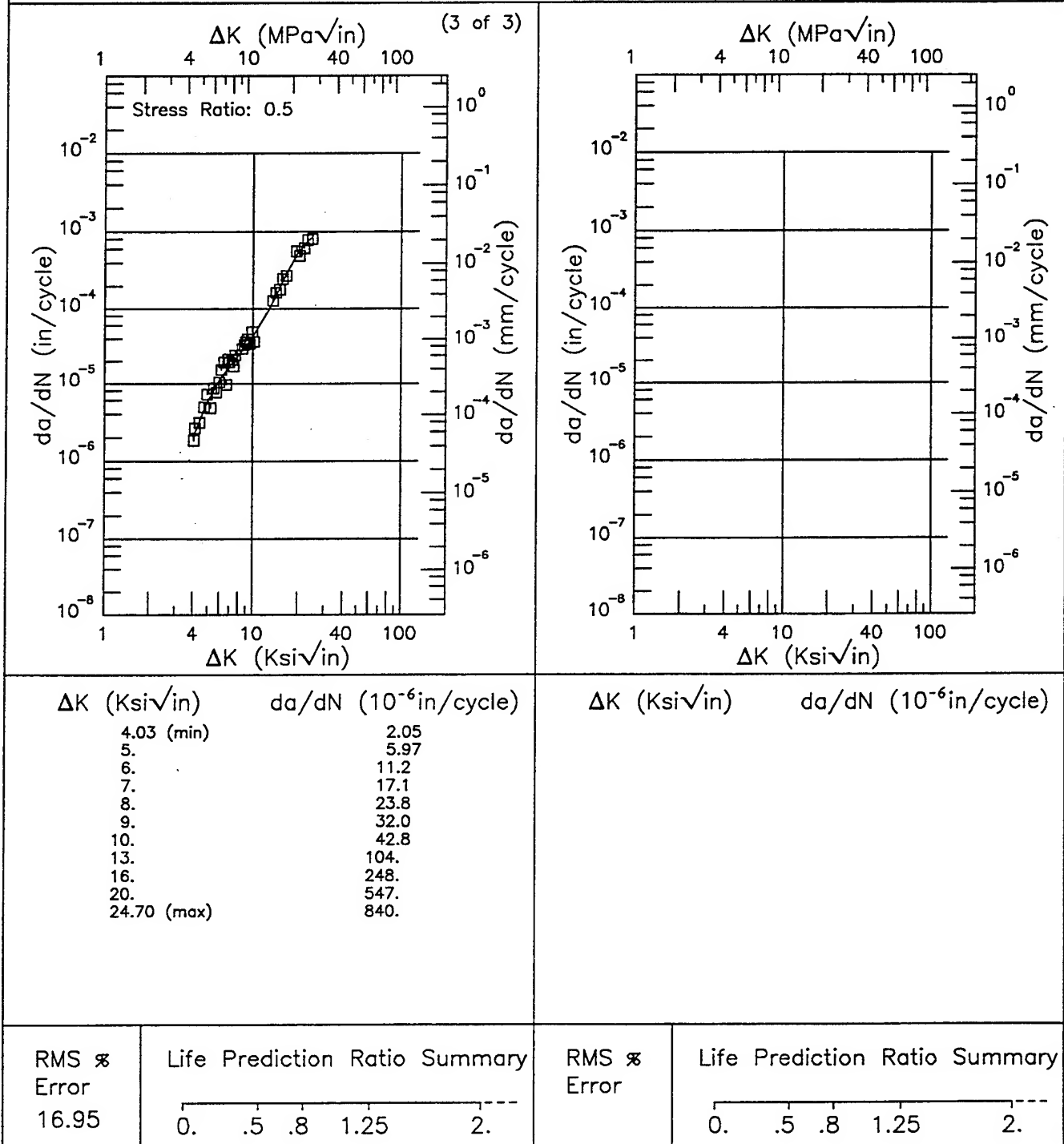
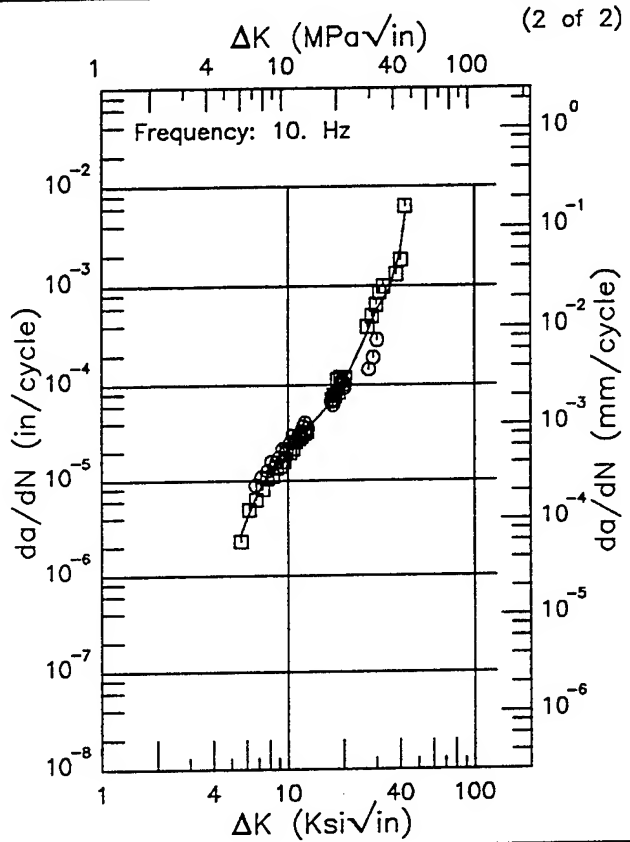
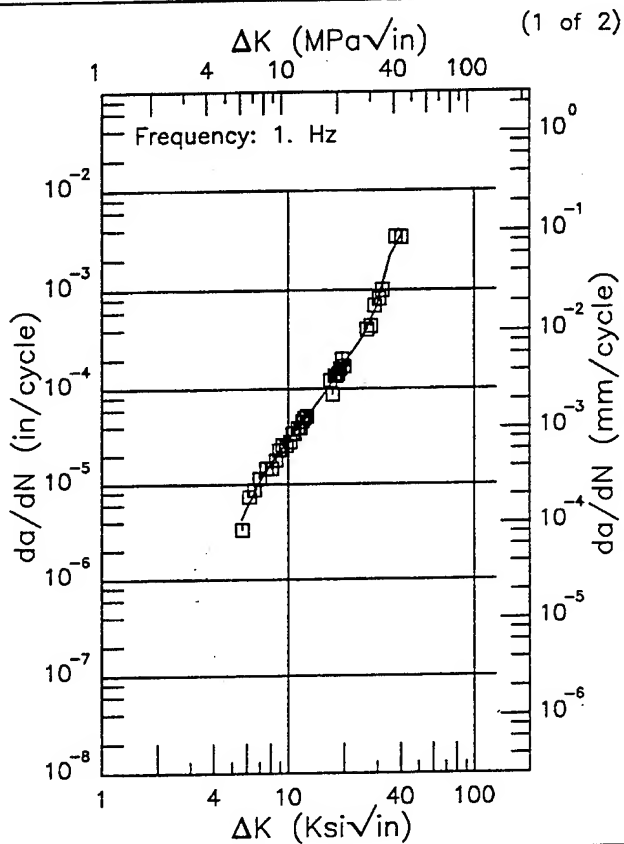


Figure 8.9.3.1.11 (Concluded)

F 7075

Condition/Ht: T6
Form: 1 in. Plate
Specimen Type: CCP (max load specified)
Orientation: L-T
Stress Ratio: 0.
Environment: 3.5% NaCl; RT

Yield Strength: 80 ksi
Ult. Strength: 88 ksi
Specimen Thk: 0.25 in.
Specimen Width: 4 in.
Ref: MA007



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.63 (min)	4.21
6.	5.69
7.	10.5
8.	16.3
9.	22.6
10.	29.5
13.	55.2
16.	96.4
20.	186.
25.	342.
30.	711.
35.	2211.
40.	3452.
40.16 (max)	3417.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.57 (min)	2.64
6.	3.98
7.	7.95
8.	12.6
9.	17.4
10.	22.1
13.	36.9
16.	57.1
20.	107.
25.	257.
30.	577.
35.	916.
40.	2130.
42.38 (max)	5390.

RMS %
Error
10.66

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
Error
19.40

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.12

Condition/Ht: T651
 Form:
 Specimen Type: CT
 Orientation: L-T
 Frequency: 2 - 5 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.5 in.
 Specimen Width: 3 in.
 Ref: WL005

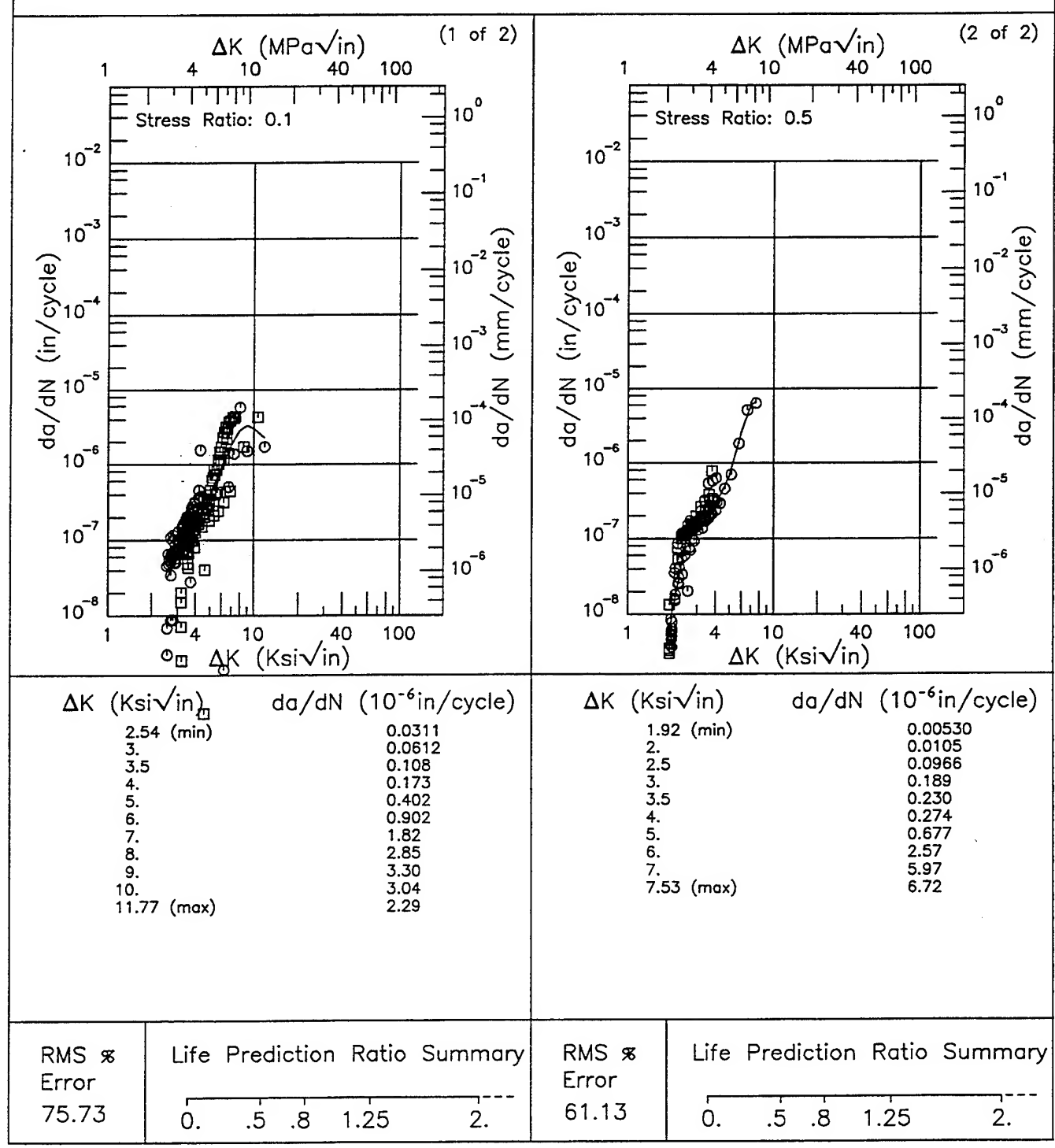


Figure 8.9.3.1.13

R 7075

Condition/Ht: T651

Form:

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 2 - 5 Hz

Environment: LAB AIR; RT

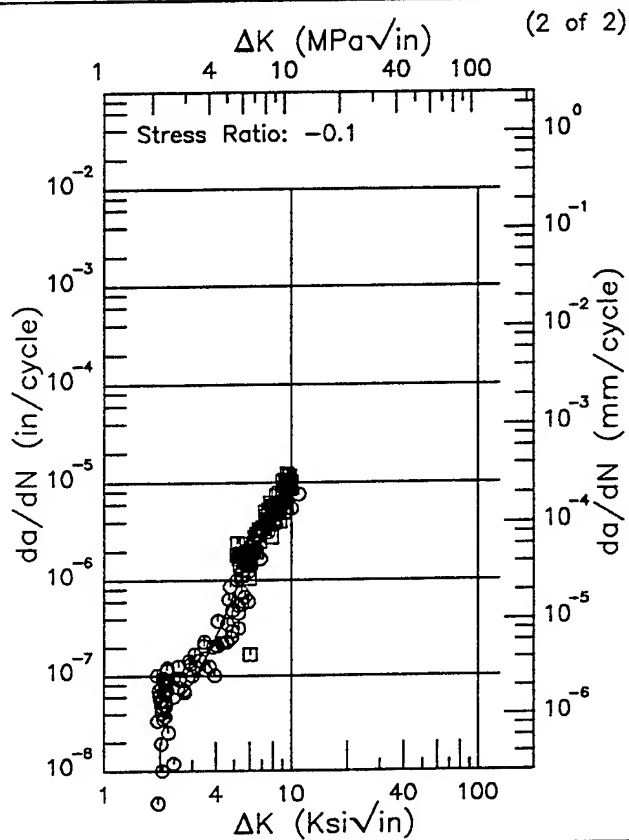
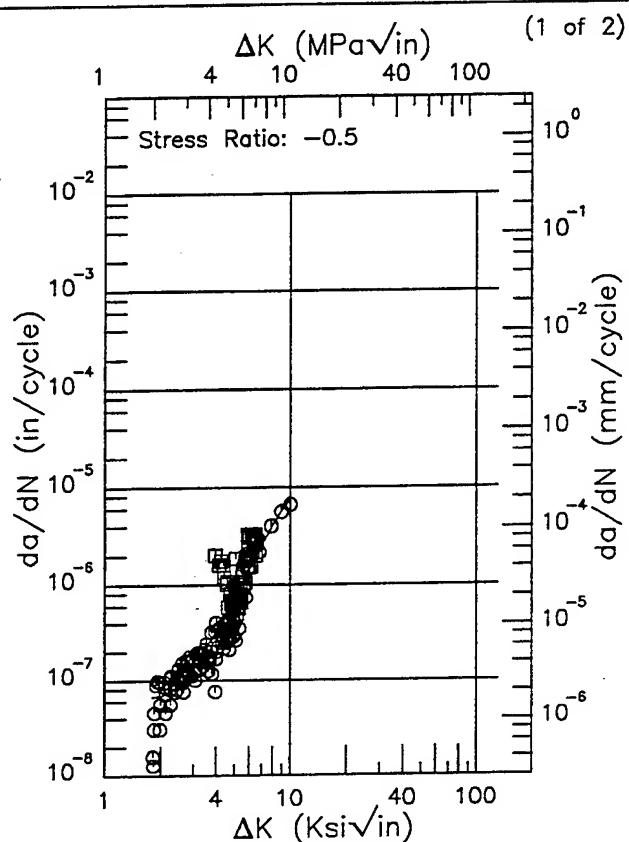
Yield Strength:

Ult. Strength:

Specimen Thk: 0.25 in.

Specimen Width: 3.9 in.

Ref: WL005

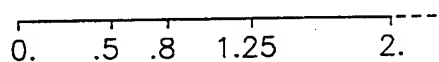


ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
1.81 (min)	0.0667
2.	0.0676
2.5	0.0879
3.	0.133
3.5	0.208
4.	0.326
5.	0.739
6.	1.47
7.	2.59
8.	4.07
9.	5.83
9.96 (max)	7.64

ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
1.92 (min)	0.0461
2.	0.0450
2.5	0.0535
3.	0.0850
3.5	0.148
4.	0.260
5.	0.721
6.	1.64
7.	3.07
8.	4.81
9.	6.48
10.	7.70
10.91 (max)	8.21

RMS %
Error
74.87

Life Prediction Ratio Summary



RMS %
Error
51.15

Life Prediction Ratio Summary

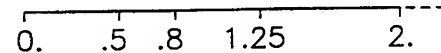


Figure 8.9.3.1.14

Condition/Ht: T651

Form:

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 2 - 5 Hz

Environment: LAB AIR; RT

Yield Strength:

Ult. Strength:

Specimen Thk: 0.5 in.

Specimen Width: 3.9 in.

Ref: WL005

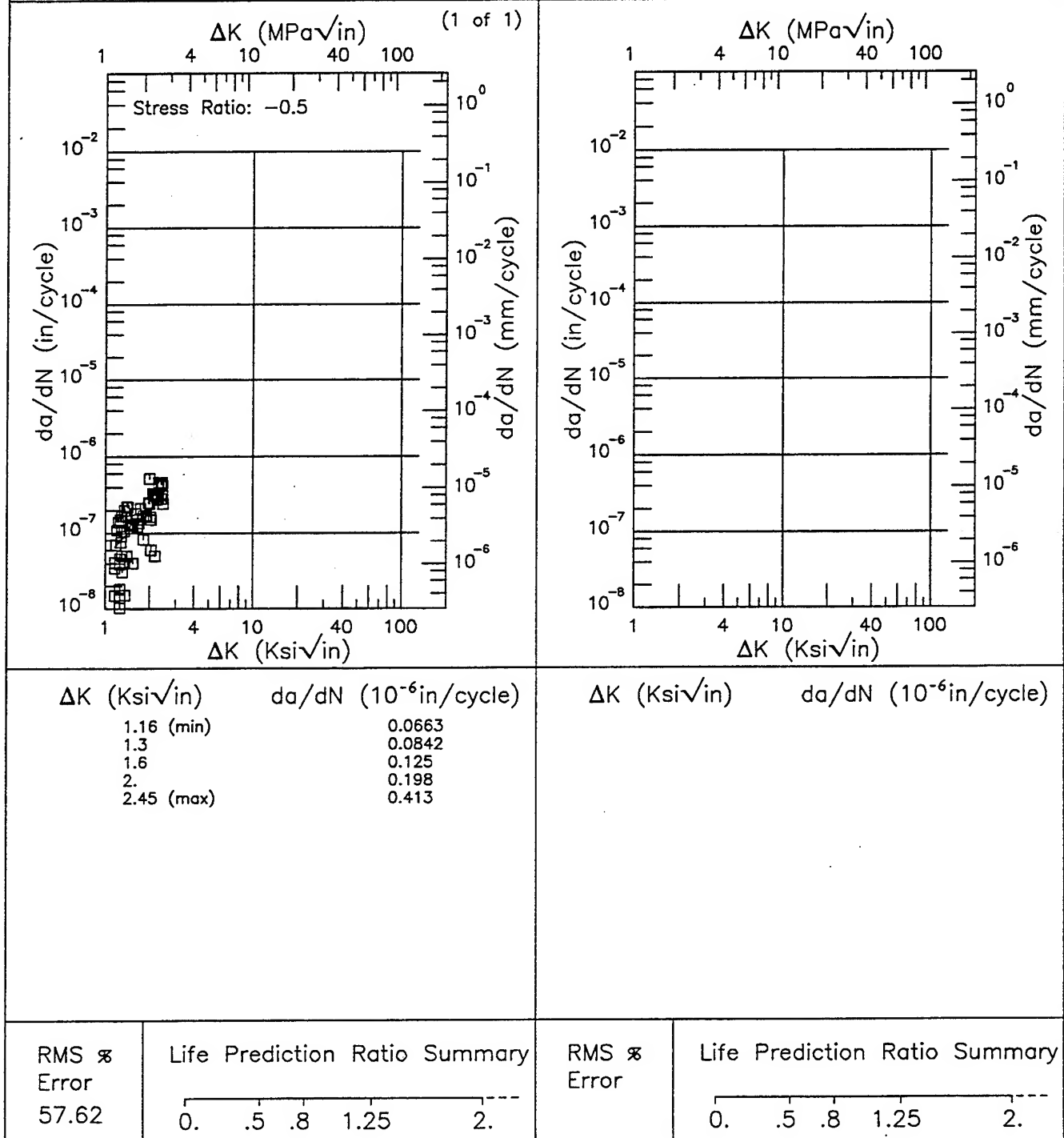
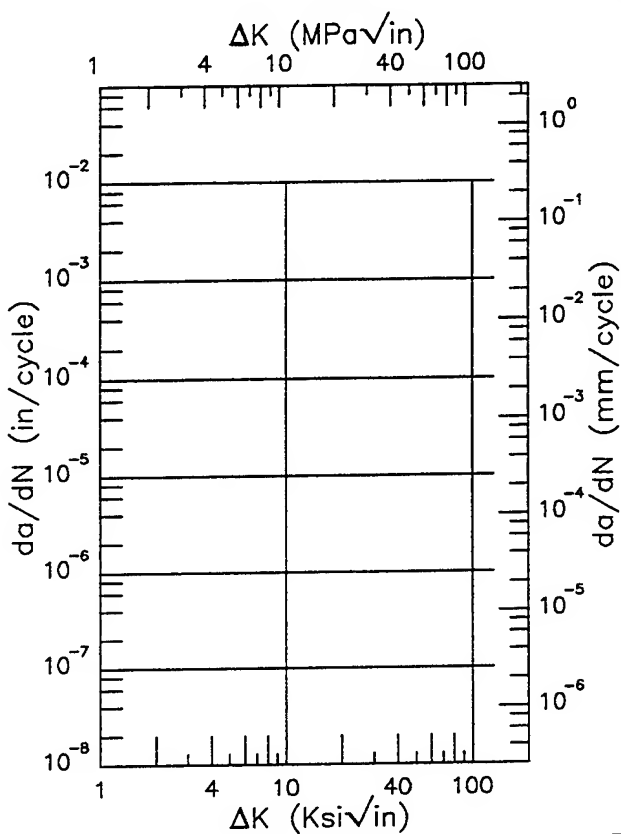
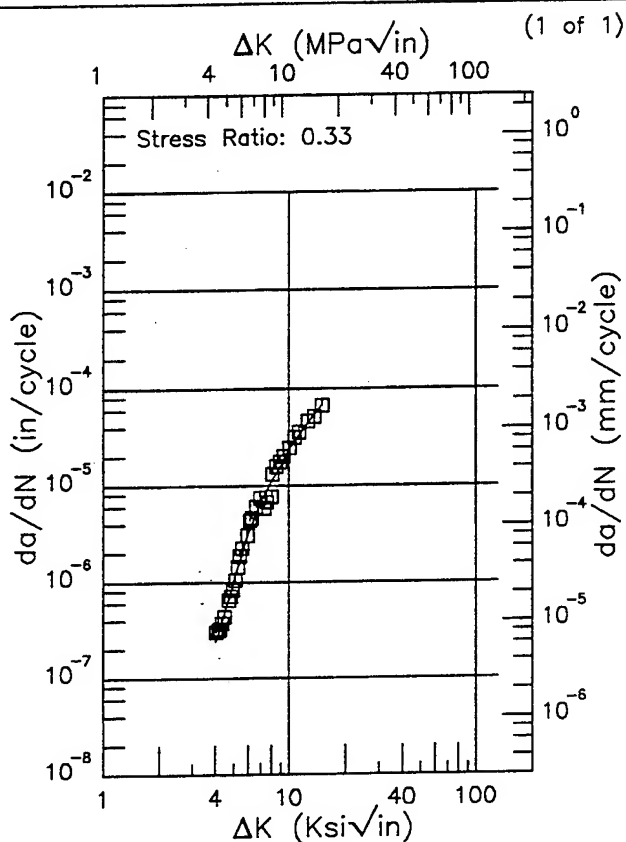


Figure 8.9.3.1.15

R 7075
 Condition/Ht: T651
 Form: 2.75 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: H.H.A.; RT

Yield Strength: 68.8 ksi
 Ult. Strength: 79.6 ksi
 Specimen Thk: 0.247 in.
 Specimen Width: 2 in.
 Ref: AL005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.03 (min)	0.239
5.	1.01
6.	3.19
7.	6.82
8.	11.0
9.	16.2
10.	24.0
13.	48.0
14.95 (max)	66.6

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 13.77

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.16

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.5

Yield Strength: 70 ksi
 Ult. Strength:
 Specimen Thk: 0.514 - 0.515 in.
 Specimen Width: 1.029 - 1.032 in.
 Ref: MR001

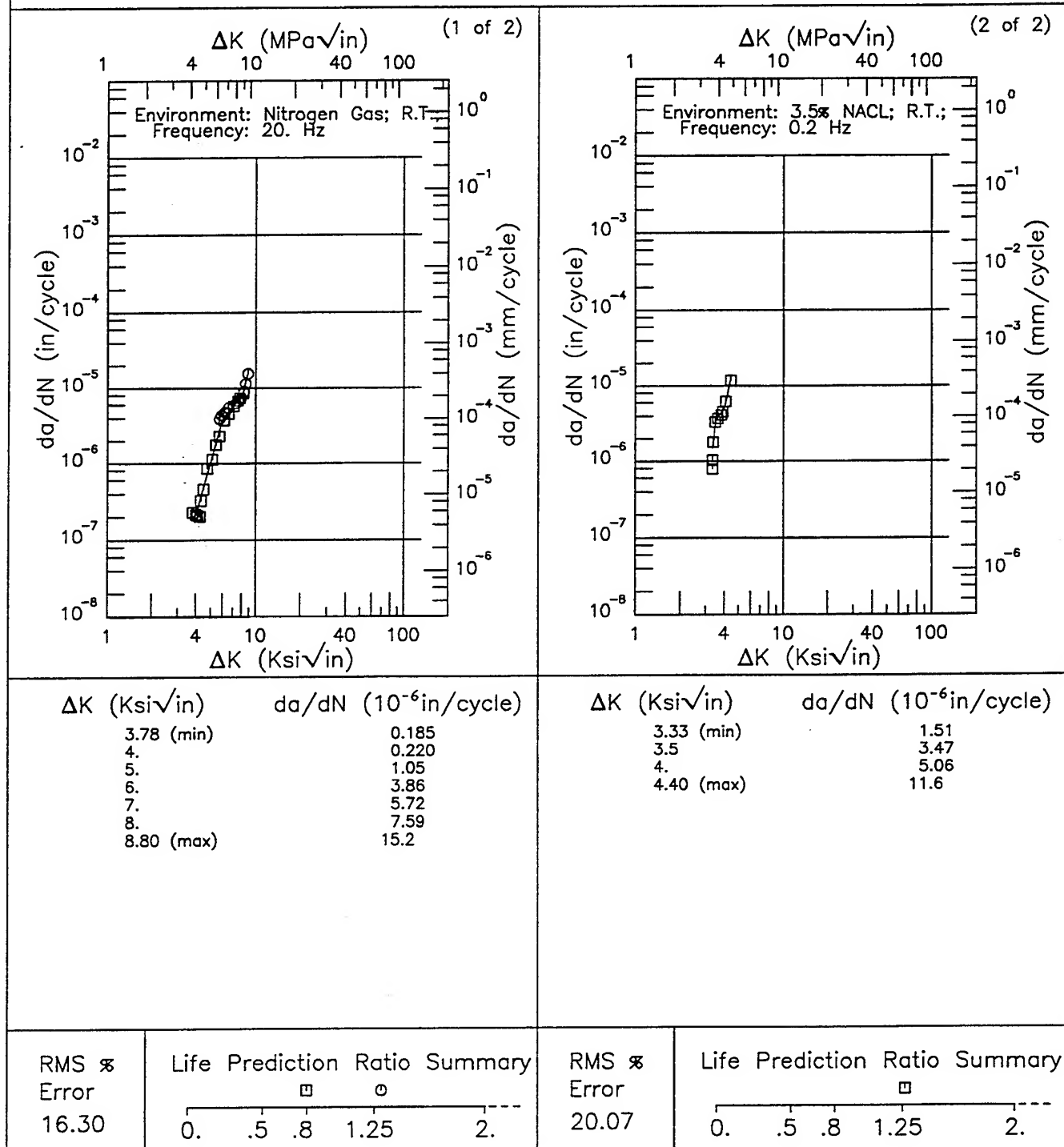


Figure 8.9.3.1.17

EF 7075

Condition/Ht: T651
Form: 1 in. Plate
Specimen Type: CT
Orientation: S-T
Stress Ratio: 0.5

Yield Strength: 70 ksi
Ult. Strength:
Specimen Thk: 0.51 - 0.511 in.
Specimen Width: 1.022 - 1.029 in.
Ref: MR001

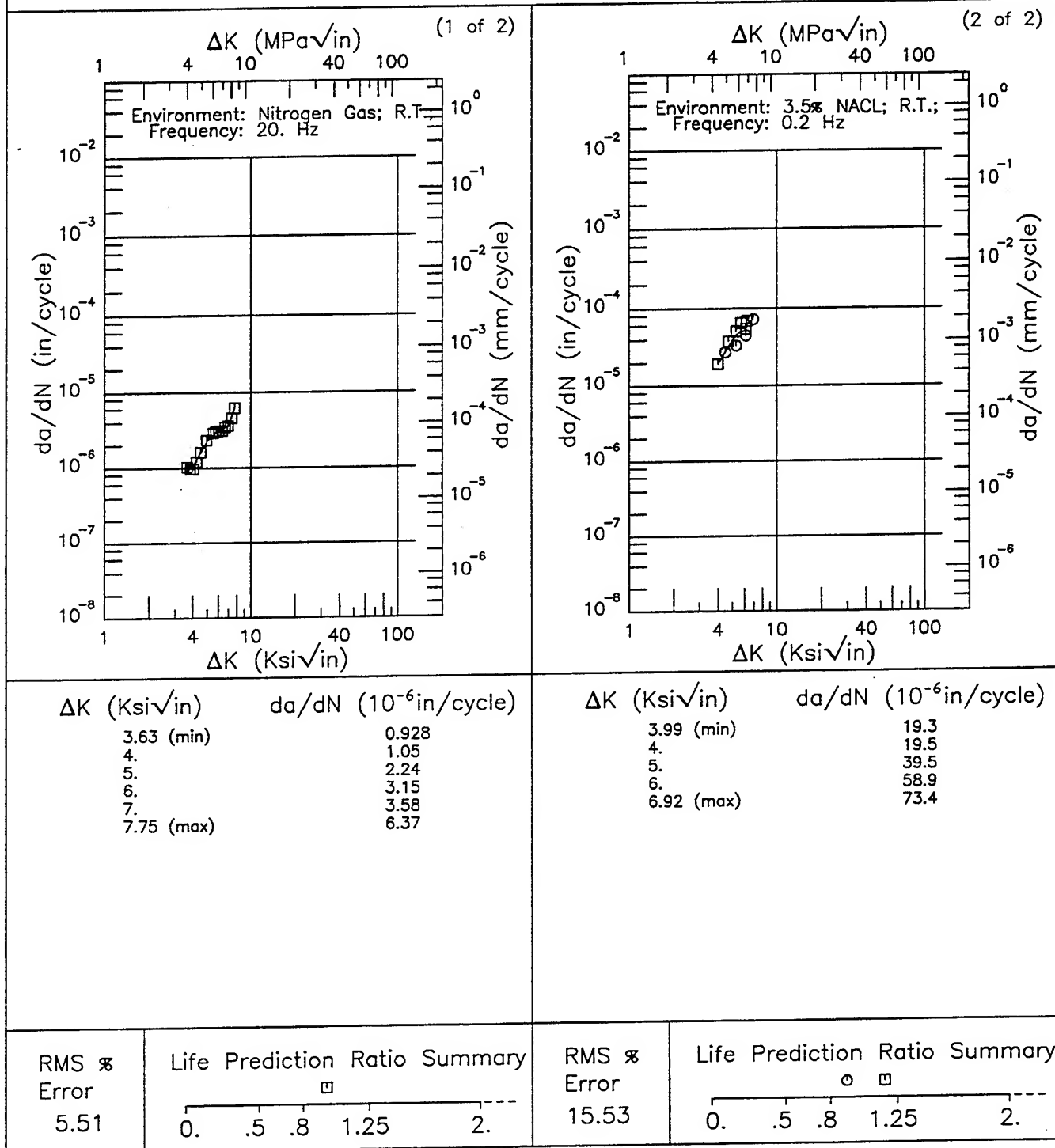
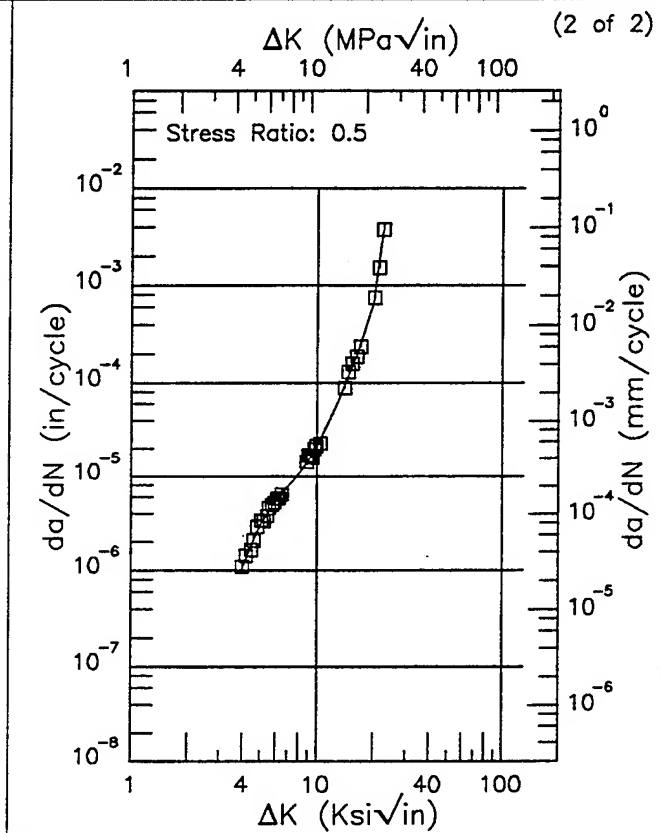
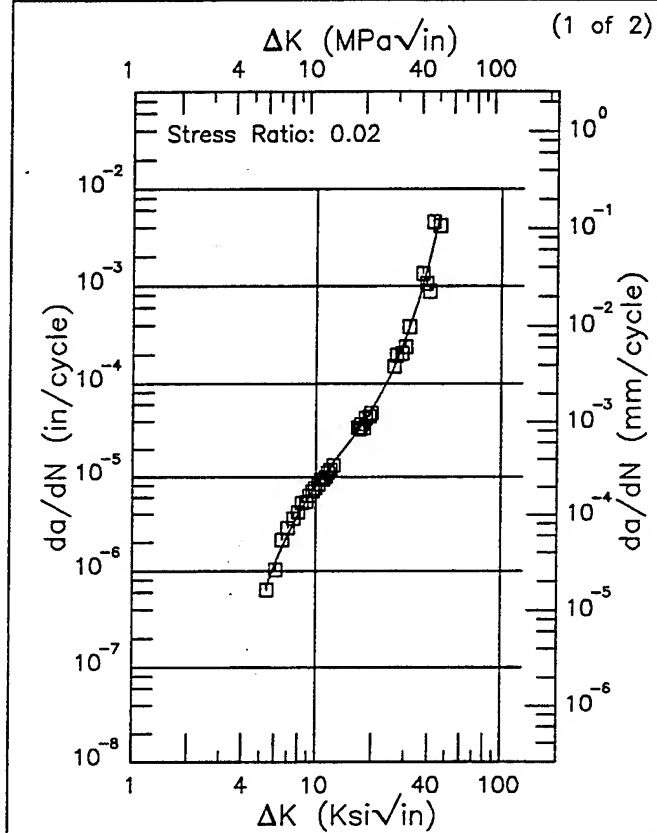


Figure 8.9.3.1.18

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 73.5 ksi
 Ult. Strength: 84 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 3.9 in.
 Ref: MA009



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.43 (min)	0.684
6.	1.17
7.	2.36
8.	3.94
9.	5.84
10.	8.02
13.	16.2
16.	27.8
20.	53.6
25.	121.
30.	284.
35.	685.
40.	1700.
46.03 (max)	5224.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.97 (min)	1.01
4.	1.06
5.	3.02
6.	5.33
7.	7.79
8.	10.7
9.	14.7
10.	20.8
13.	65.5
16.	176.
20.	658.
22.52 (max)	3608.

RMS %
 Error
 18.19

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 7.15

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.19

EF 7075

Condition/Ht: T651
 Form: 2.75 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33

Yield Strength: 68.8 ksi
 Ult. Strength: 79.6 ksi
 Specimen Thk: 0.25 - 0.252 in.
 Specimen Width: 3.999 - 4 in.
 Ref: AL005

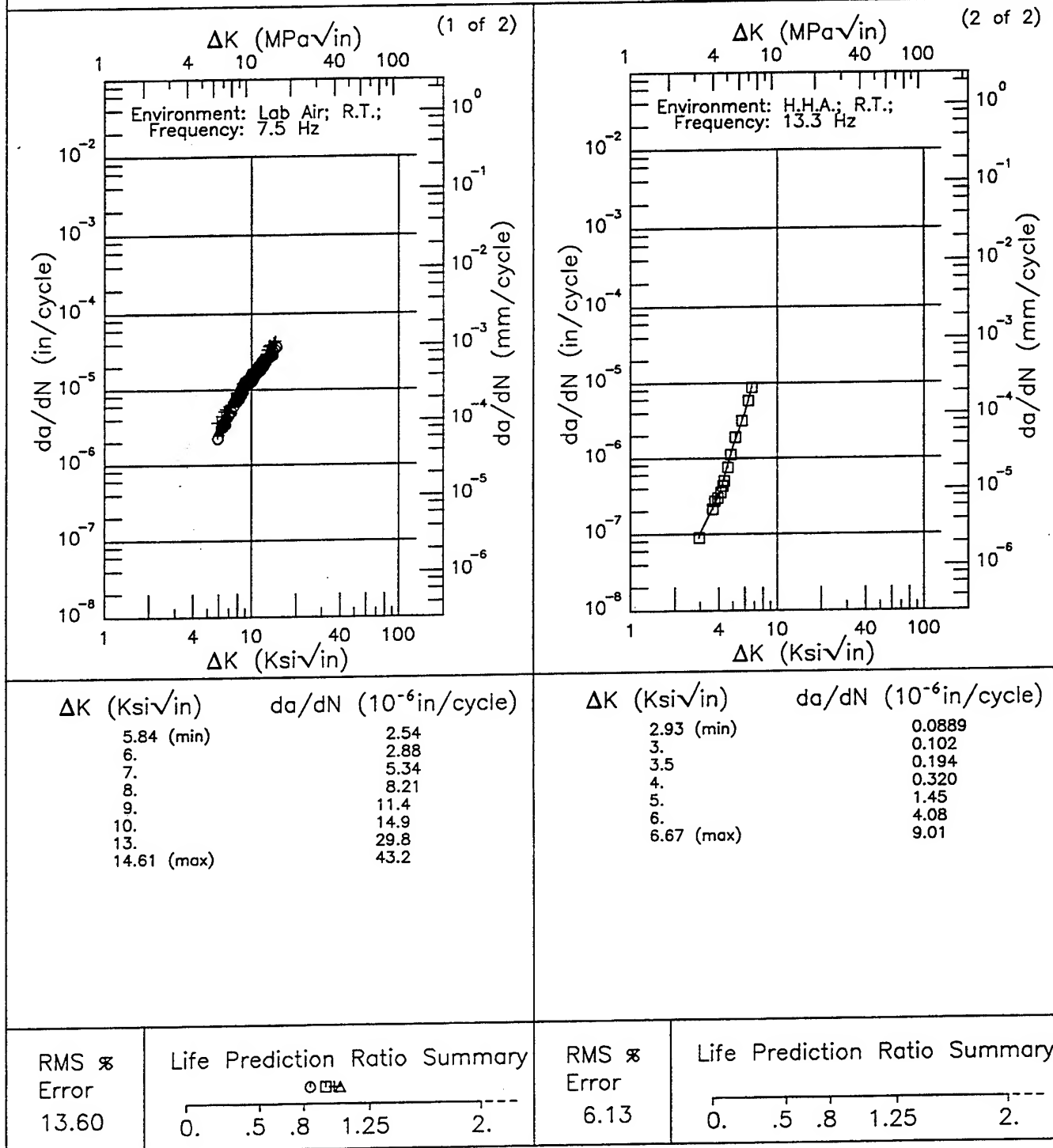


Figure 8.9.3.1.20

Condition/Ht: T651
 Form: 0.3 in. Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 78.5 ksi
 Ult. Strength: 84.5 ksi
 Specimen Thk: 0.15 in.
 Specimen Width: 3.9 in.
 Ref: MA008

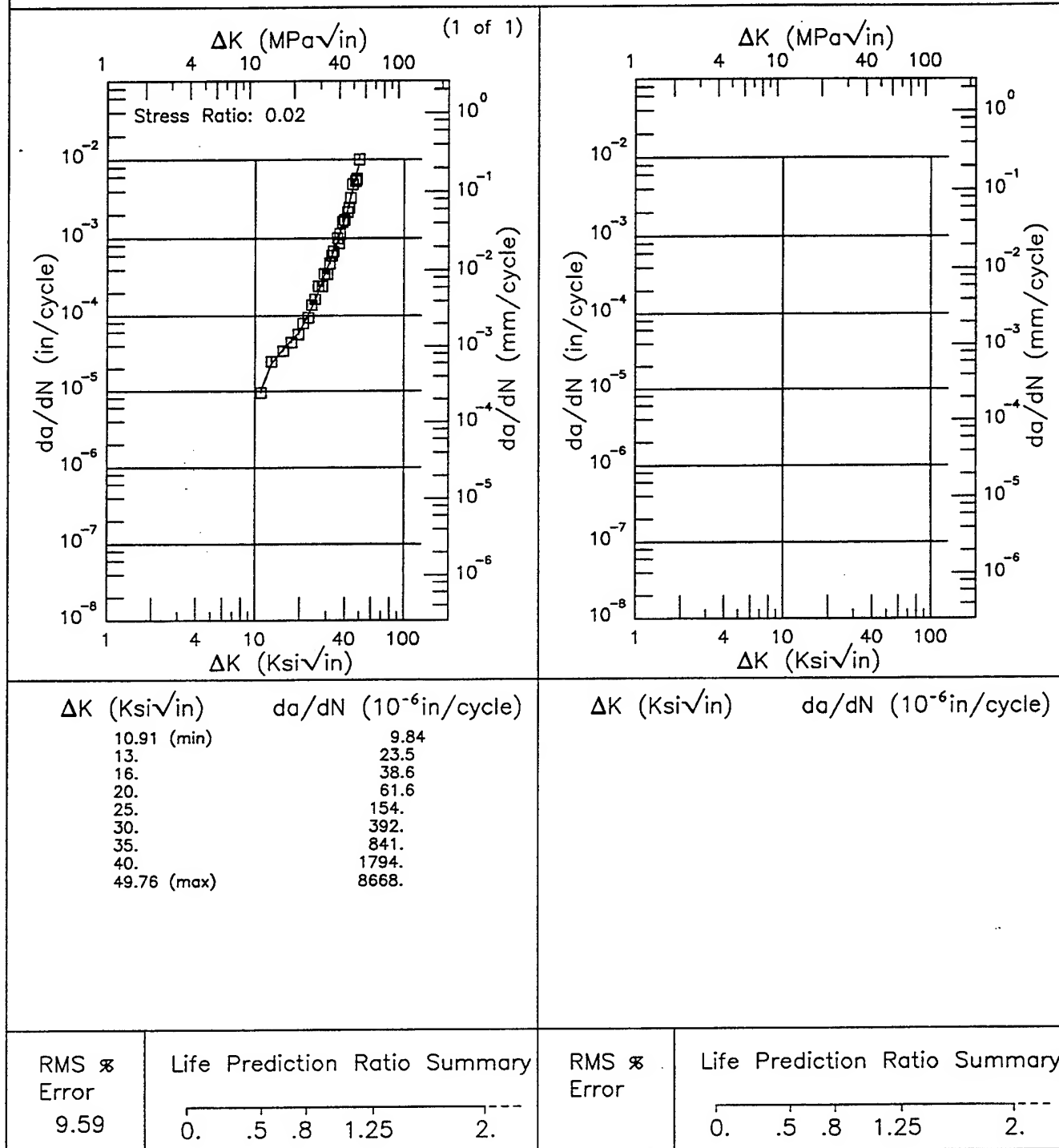
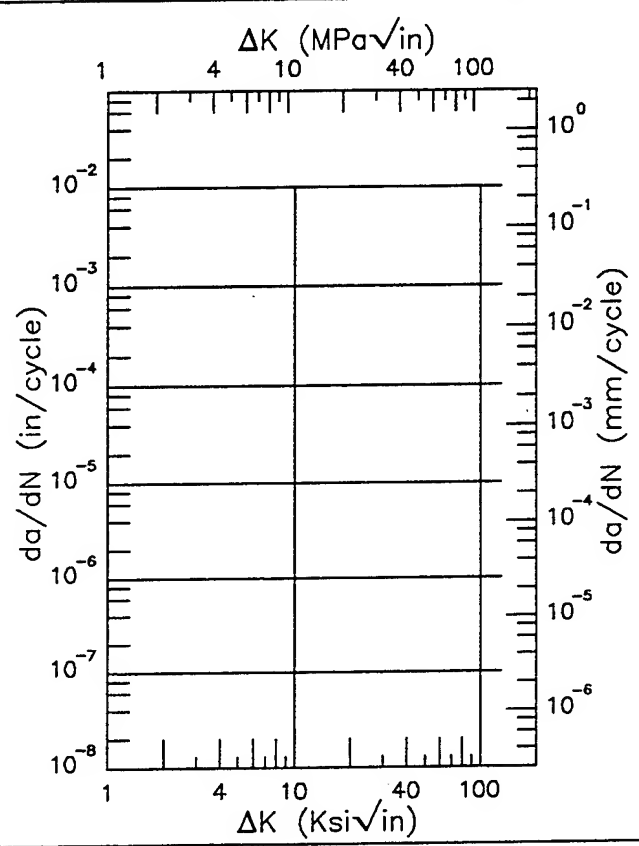
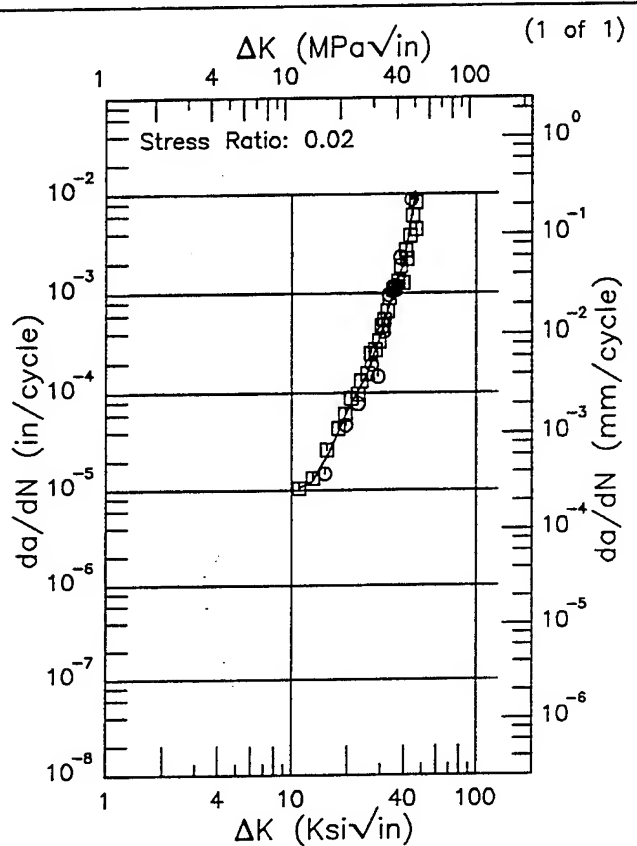


Figure 8.9.3.1.21

R 7075

Condition/Ht: T651
 Form: 0.3 in. Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

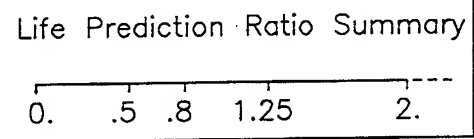
Yield Strength: 78.5 ksi
 Ult. Strength: 84.5 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 3.9 in.
 Ref: MA008



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
10.93 (min)	10.6
13.	12.5
16.	25.8
20.	65.7
25.	147.
30.	375.
35.	1026.
40.	2022.
46.21 (max)	10648.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 23.02



RMS %
 Error

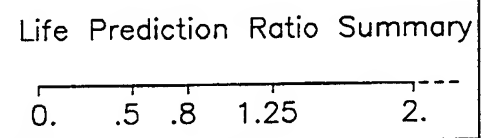


Figure 8.9.3.1.22

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 0.1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
 Ult. Strength: 84.5 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 3.9 in.
 Ref: MA008

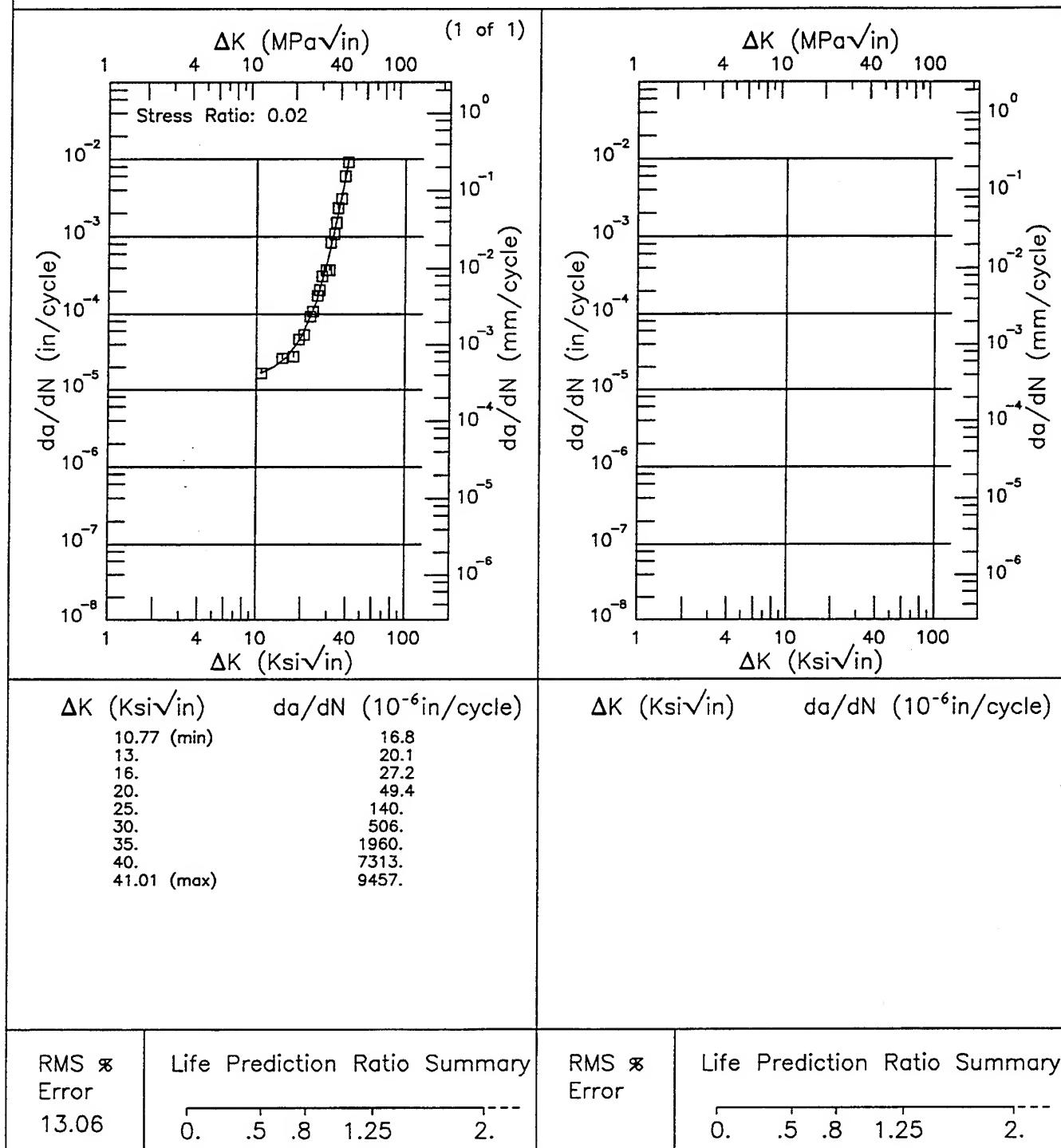
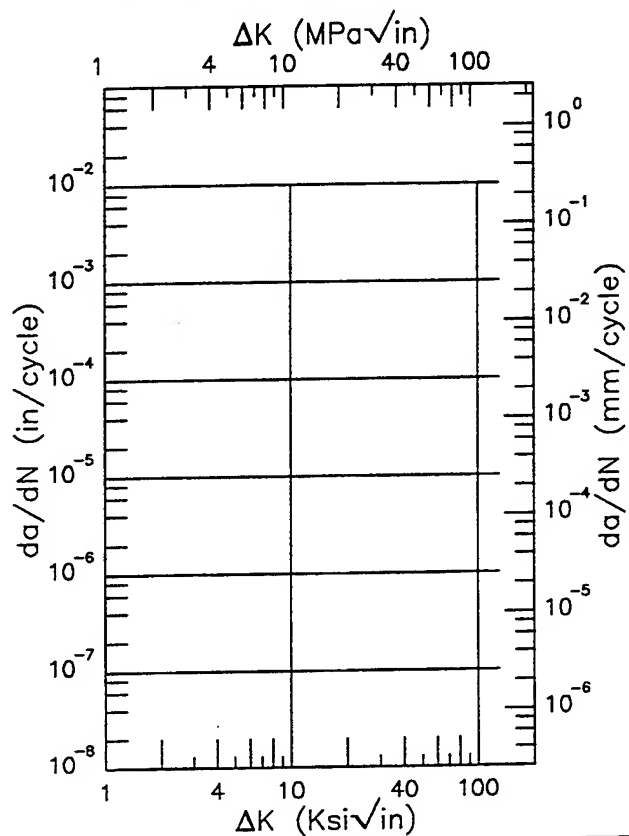
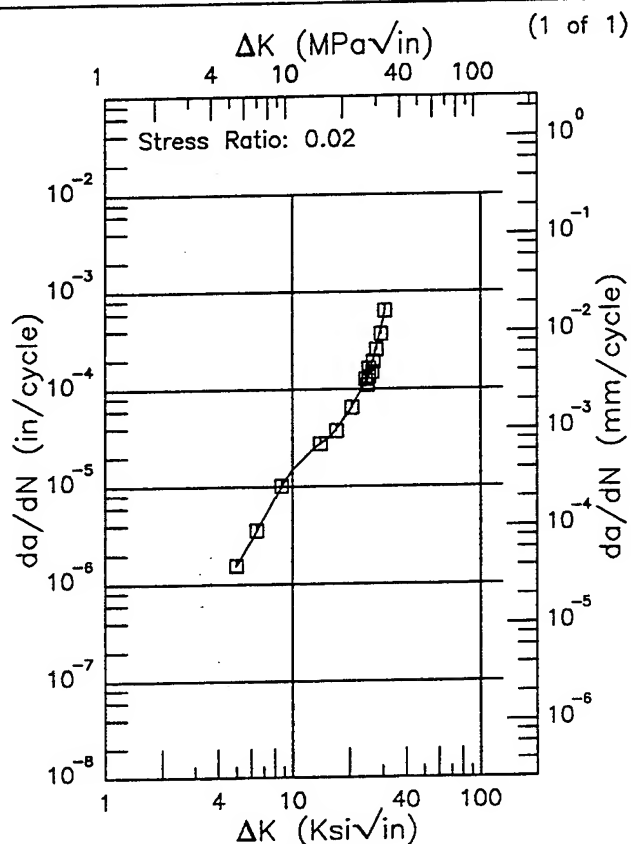


Figure 8.9.3.1.23

R | 7075 |
 Condition/Ht: T651
 Form: 2.5 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency:
 Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
 Ult. Strength: 85 ksi
 Specimen Thk: 1.25 in.
 Specimen Width:
 Ref: MA012



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.98 (min)	1.55
5.	1.57
6.	2.78
7.	4.76
8.	7.57
9.	11.1
10.	15.0
13.	24.9
16.	33.5
20.	59.2
25.	137.
30.	509.
30.45 (max)	615.

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 10.41

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.24

Condition/Ht: T651
 Form: 2.5 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 75.5 ksi
 Ult. Strength: 86.5 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA011

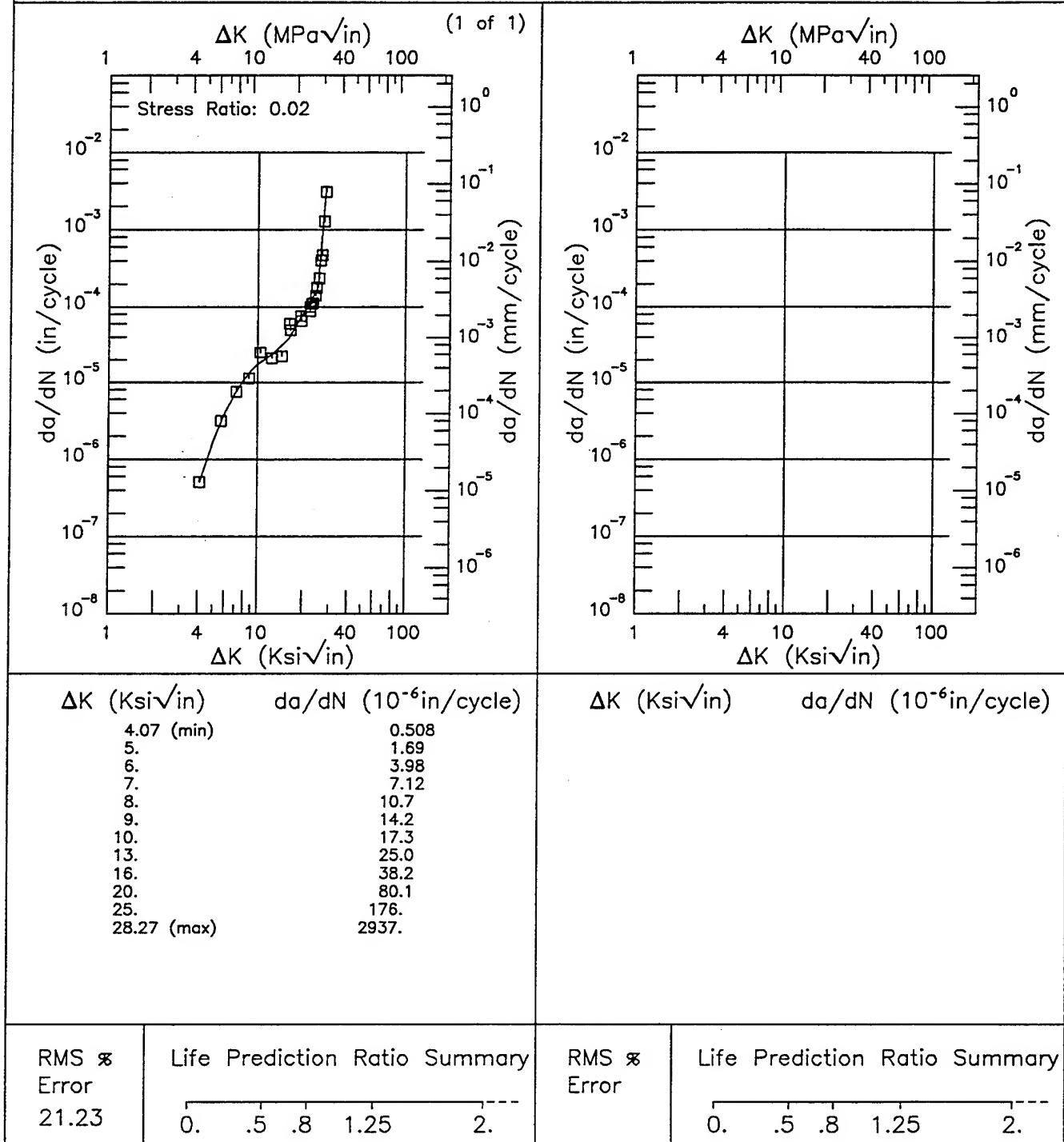
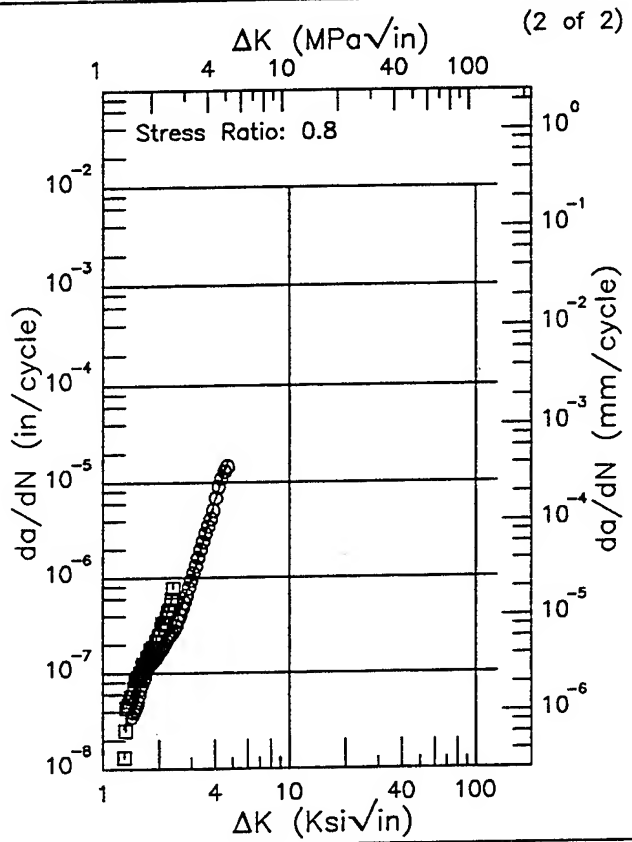
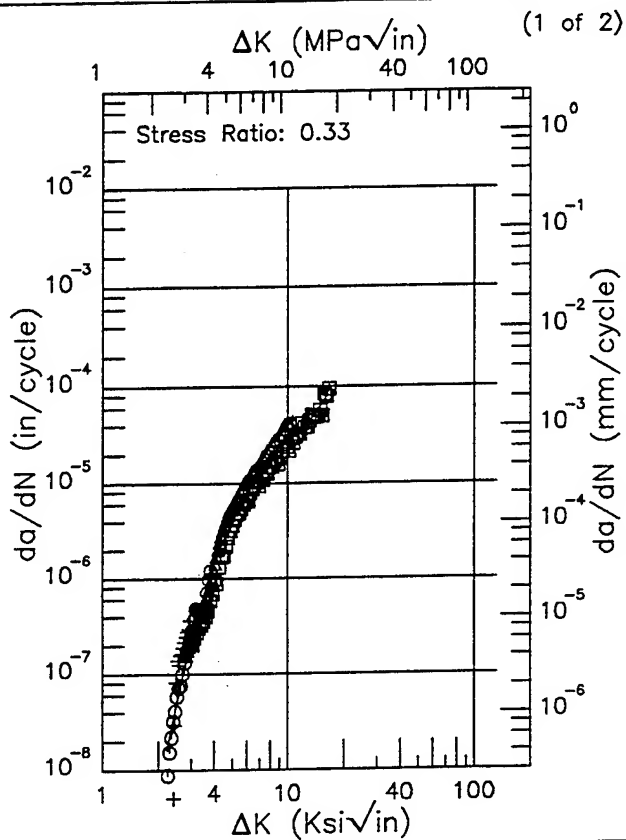


Figure 8.9.3.1.25

R 7075

Condition/Ht: T651
 Form: 0.25 - 0.75 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 25 Hz
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.249 - 0.254 in.
 Specimen Width: 2.548 - 2.555 in.
 Ref: AL005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.23 (min)	0.0161
2.5	0.0494
3.	0.228
3.5	0.664
4.	1.45
5.	4.19
6.	8.30
7.	13.4
8.	18.8
9.	24.1
10.	28.7
13.	42.2
16.	77.9
16.58 (max)	95.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.29 (min)	0.0266
1.3	0.0281
1.6	0.0906
2.	0.217
2.5	0.423
3.	0.935
3.5	2.68
4.	6.64
4.65 (max)	15.3

RMS %
 Error
 35.88

Life Prediction Ratio Summary
 0. .5 .8 1.25 2.---

RMS %
 Error
 26.64

Life Prediction Ratio Summary
 0. .5 .8 1.25 2.---

Figure 8.9.3.1.26

Condition/Ht: T651
 Form: 3 in. Plate
 Specimen Type: DCB
 Orientation: L-T
 Stress Ratio: 0.02
 Frequency: 1 Hz

Yield Strength: 70.2 – 75.7 ksi
 Ult. Strength: 81.2 – 85 ksi
 Specimen Thk: 0.75 in.
 Specimen Width: 5.5 in.
 Ref: 84360

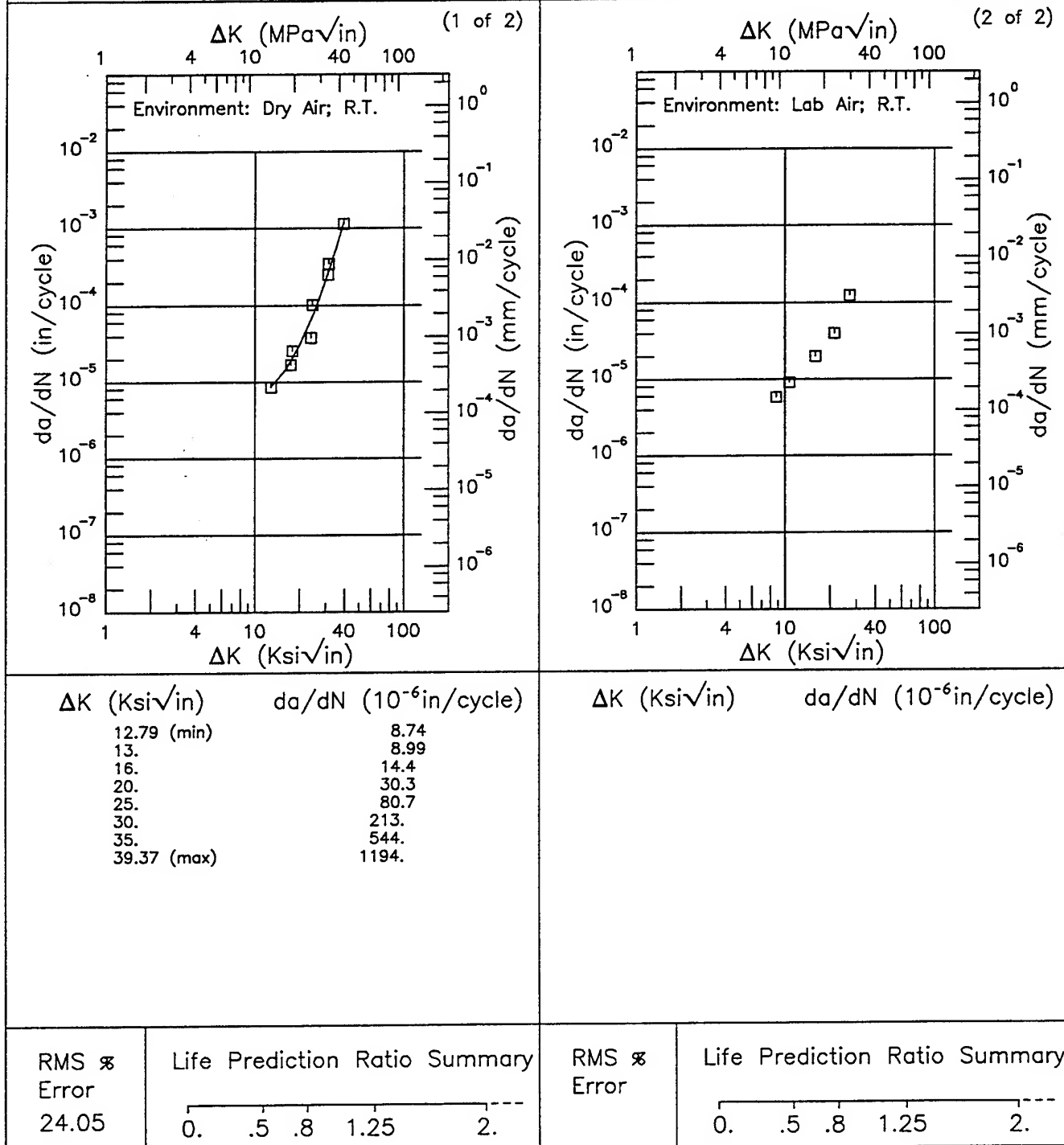


Figure 8.9.3.1.27

R

7075

Condition/Ht: T651
 Form: 3 in. Plate
 Specimen Type: DCB
 Orientation: L-T
 Frequency: 10 Hz
 Environment: DRY AIR; RT

Yield Strength: 75.7 ksi
 Ult. Strength: 85 ksi
 Specimen Thk: 0.75 in.
 Specimen Width: 5.5 in.
 Ref: 84360

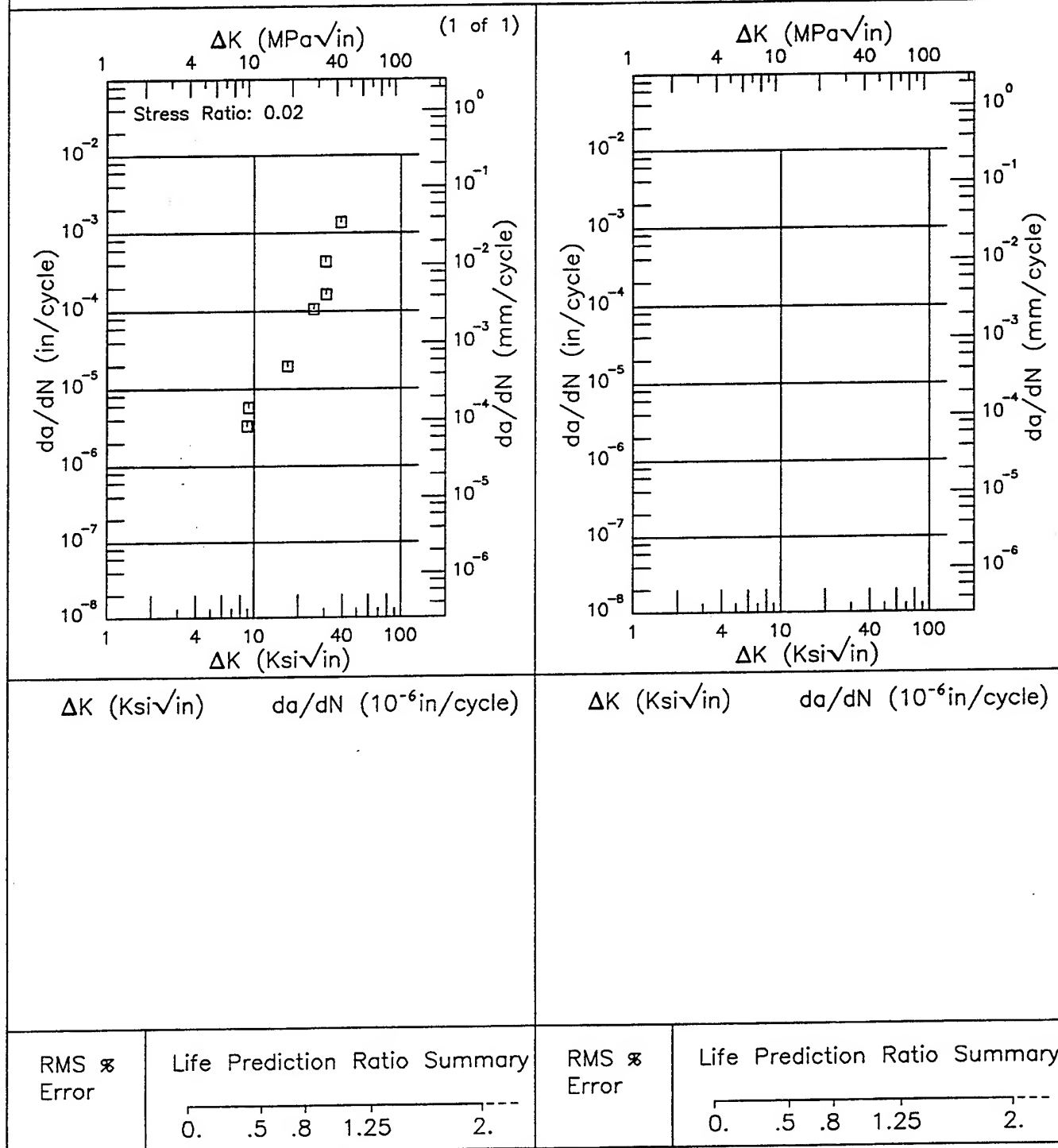


Figure 8.9.3.1.28

Condition/Ht: T651
 Form: 3 in. Plate
 Specimen Type: DCB
 Orientation: L-T
 Stress Ratio: 0.02
 Frequency: 1 Hz

Yield Strength: 70.2 ksi
 Ult. Strength: 81.2 ksi
 Specimen Thk: 1 in.
 Specimen Width: 5.5 in.
 Ref: 84360

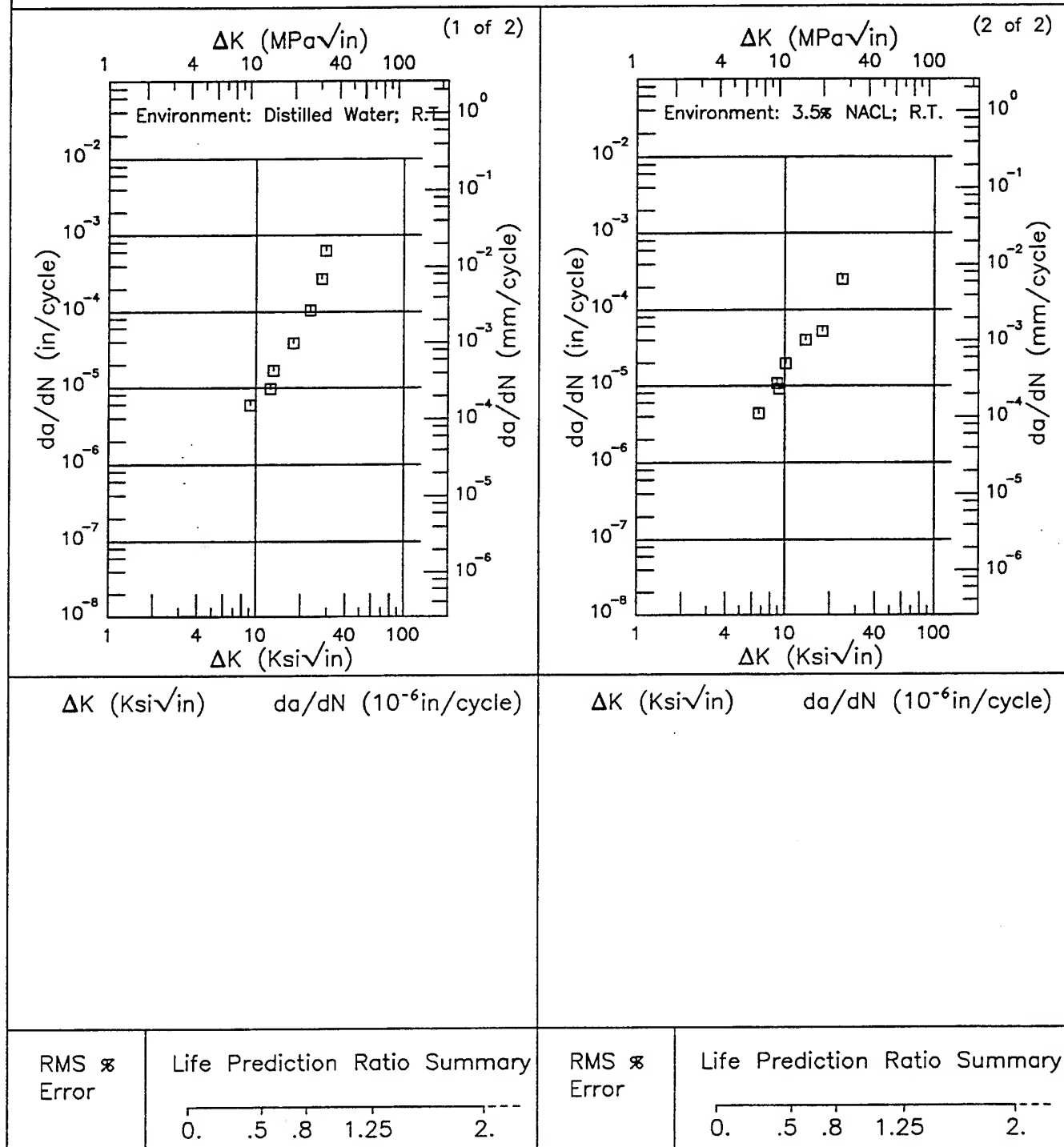
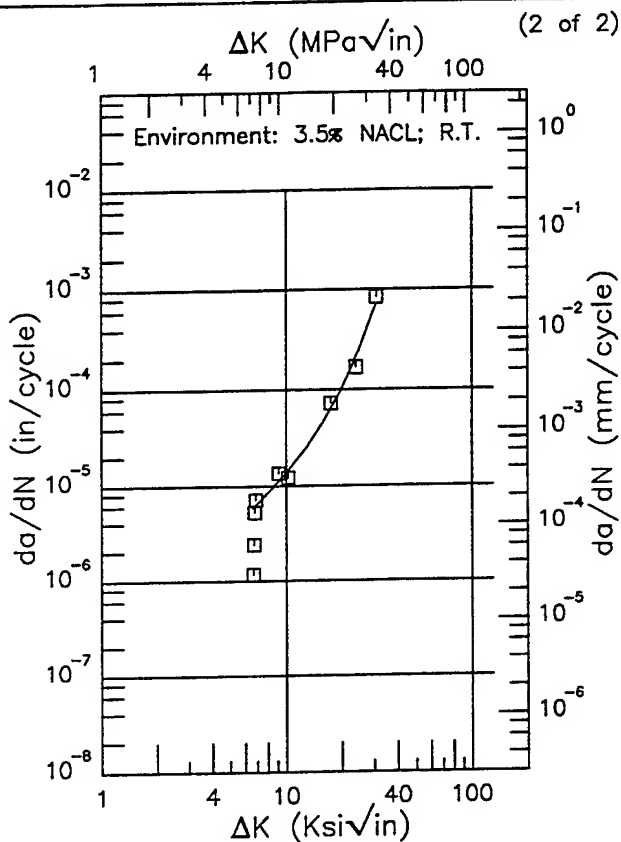
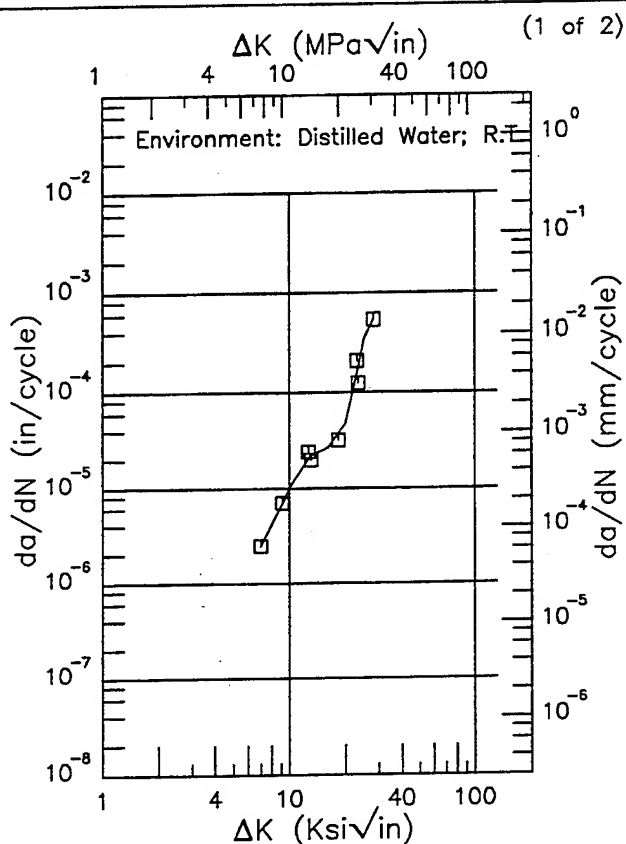


Figure 8.9.3.1.29

7075

Condition/Ht: T651
Form: 3 in. Plate
Specimen Type: DCB
Orientation: L-T
Stress Ratio: 0.02
Frequency: 10 Hz

Yield Strength: 70.2 ksi
Ult. Strength: 81.2 ksi
Specimen Thk: 1 in.
Specimen Width: 5.5 in.
Ref: 84360

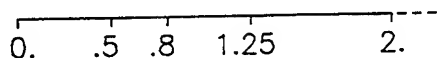


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.96 (min)	2.42
7.	2.47
8.	4.09
9.	6.63
10.	10.1
13.	22.3
16.	26.6
20.	47.9
25.	349.
28.02 (max)	531.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.63 (min)	5.87
7.	6.55
8.	8.59
9.	11.0
10.	13.8
13.	26.0
16.	47.2
20.	101.
25.	255.
30.	629.
30.64 (max)	705.

RMS %
Error
17.16

Life Prediction Ratio Summary



RMS %
Error
36.78

Life Prediction Ratio Summary

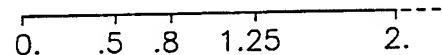


Figure 8.9.3.1.30

Condition/Ht: T651
 Form: 3 in. Plate
 Specimen Type: DCB
 Orientation: L-T
 Frequency: 10 Hz
 Environment: DRY AIR; RT

Yield Strength: 70 ksi
 Ult. Strength: 81 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 5.5 in.
 Ref: 84360

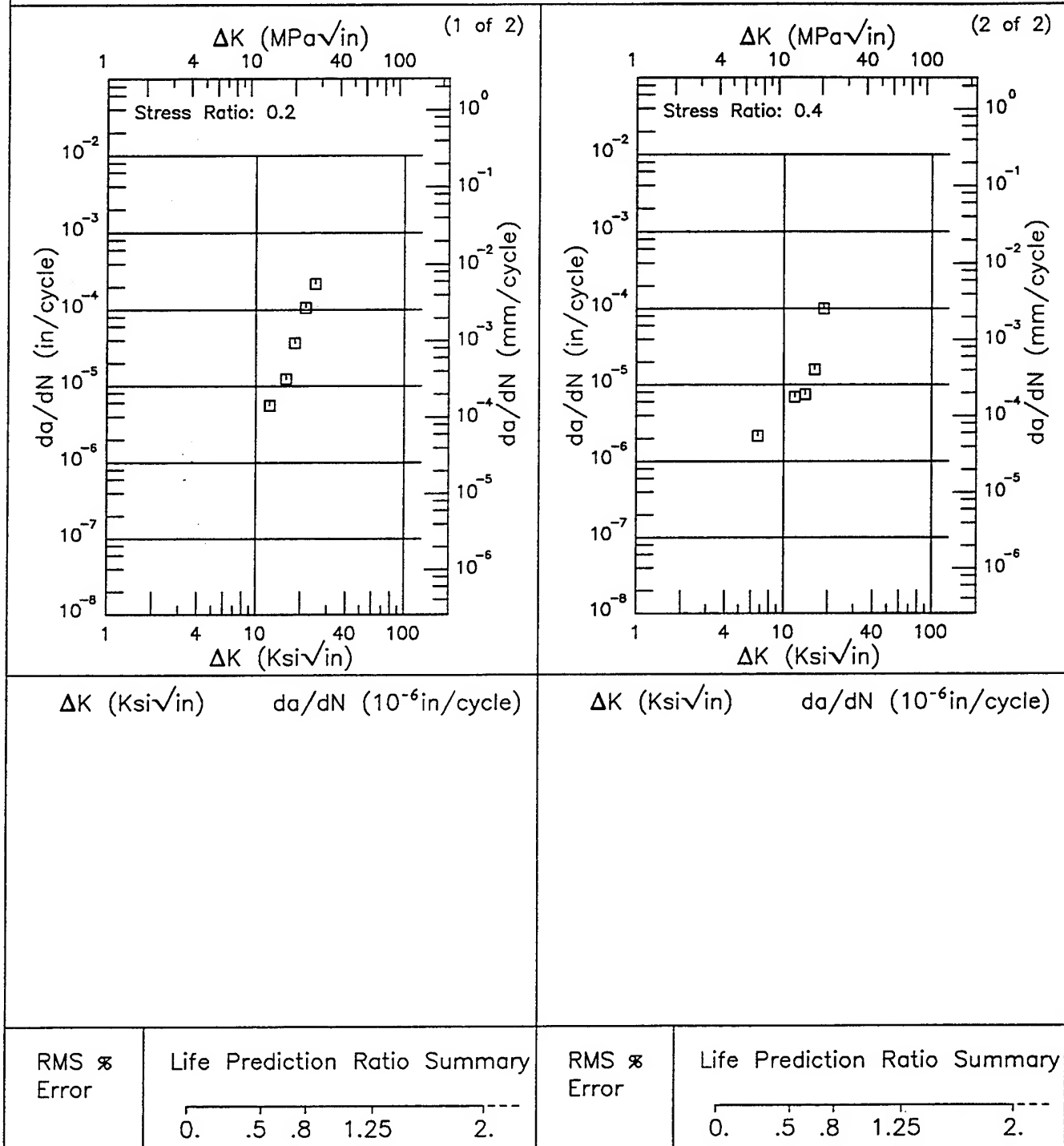
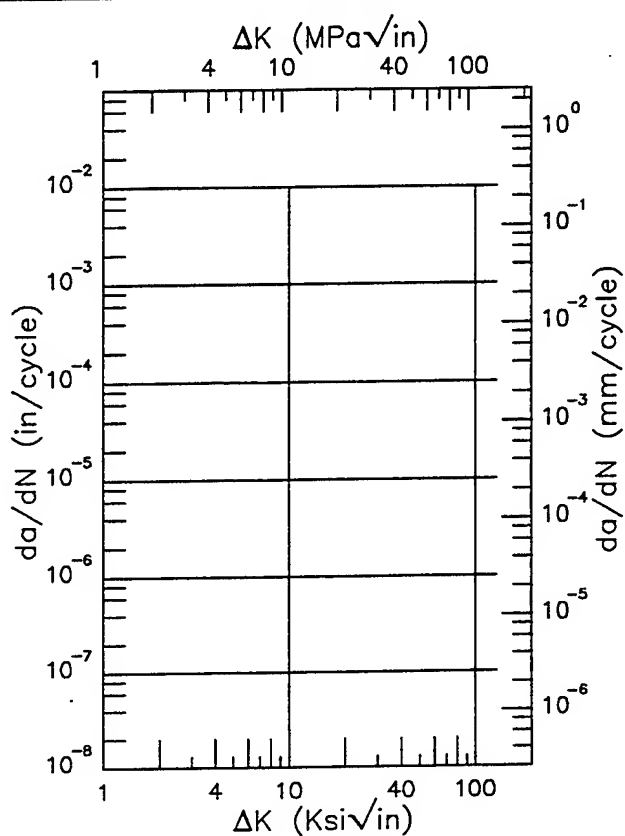
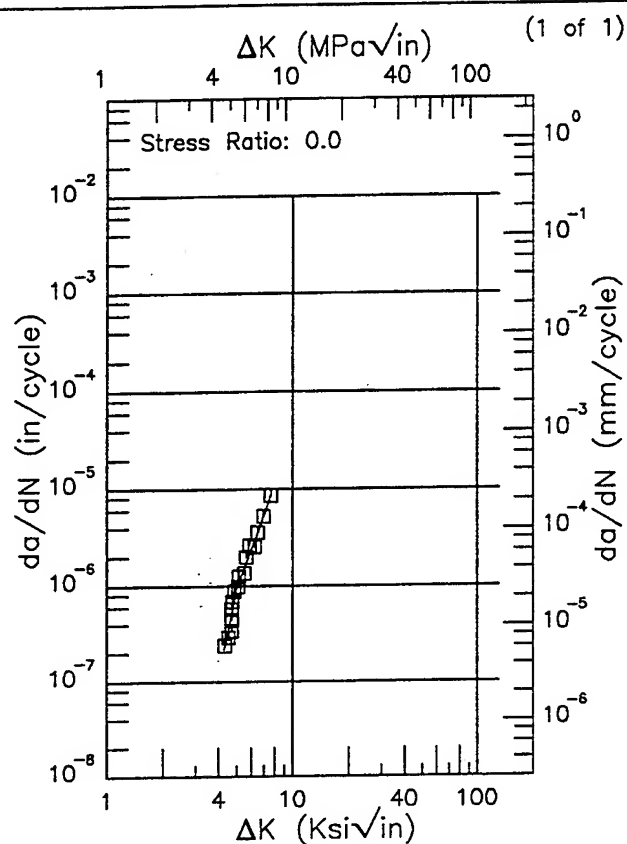


Figure 8.9.3.1.31

R 7075
 Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Frequency: 15 Hz
 Environment: S.T.W.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.29 (min)	0.218
5.	0.974
6.	2.38
7.	5.40
7.62 (max)	8.51

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 17.00

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.32

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E

7075

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140

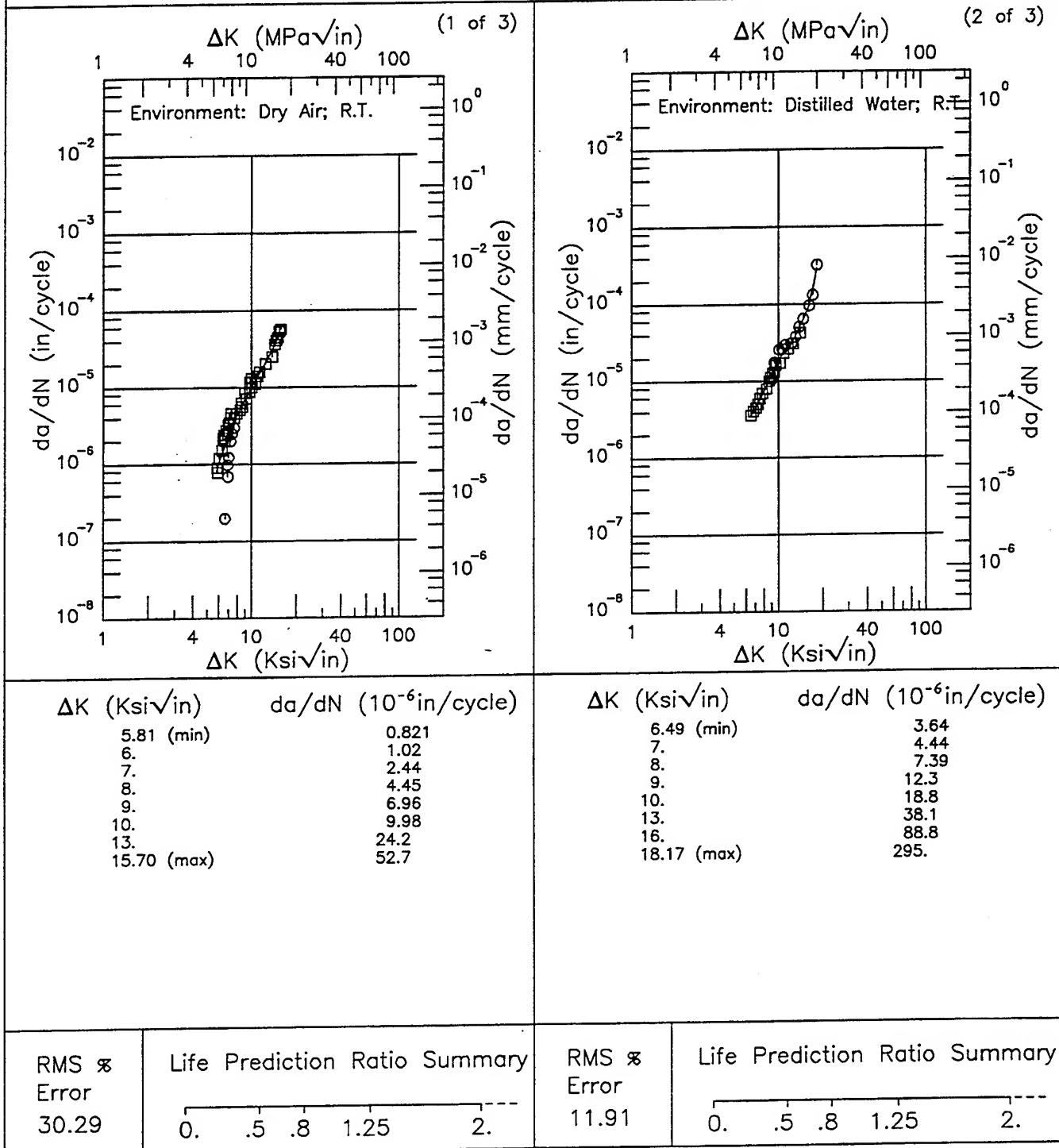
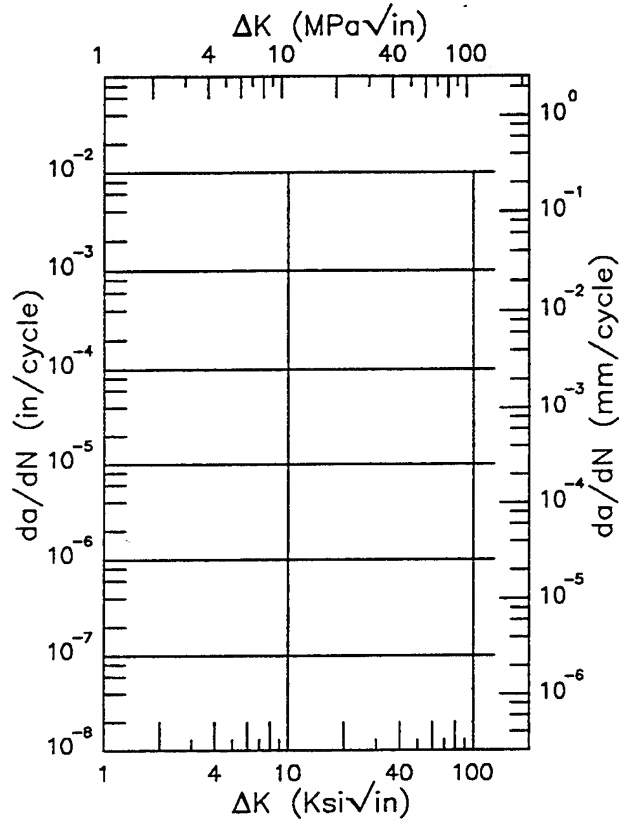
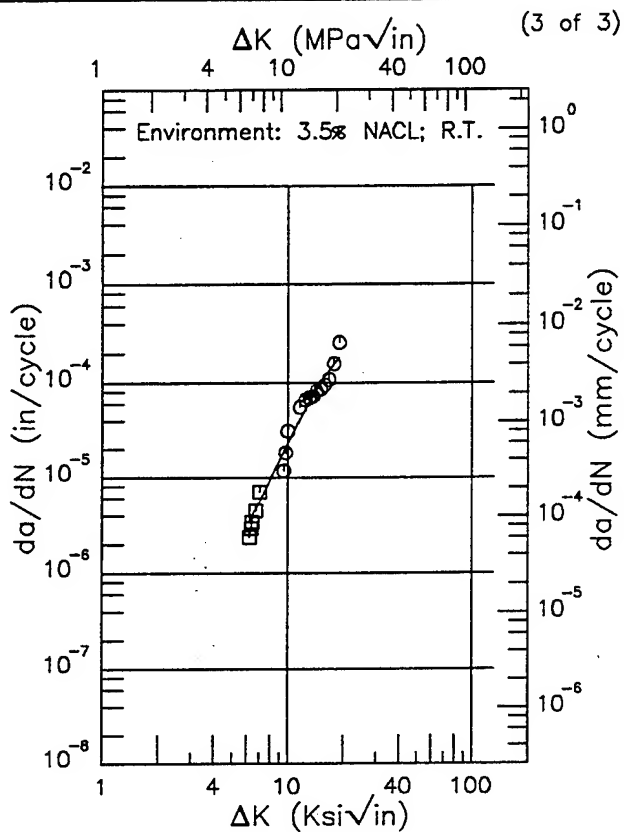


Figure 8.9.3.1.33

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.19 (min)	3.45
7.	5.51
8.	9.37
9.	15.1
10.	23.1
13.	62.4
16.	121.
18.87 (max)	181.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 23.56

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

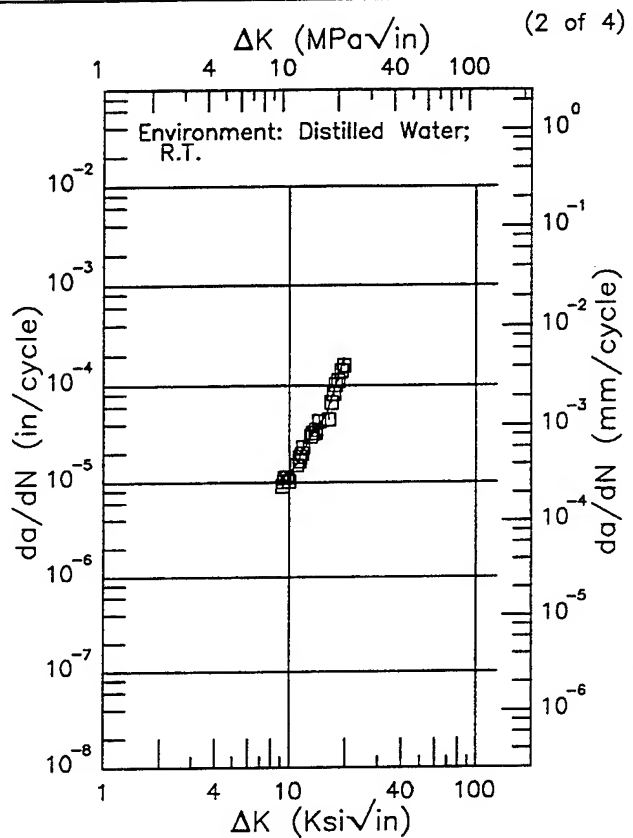
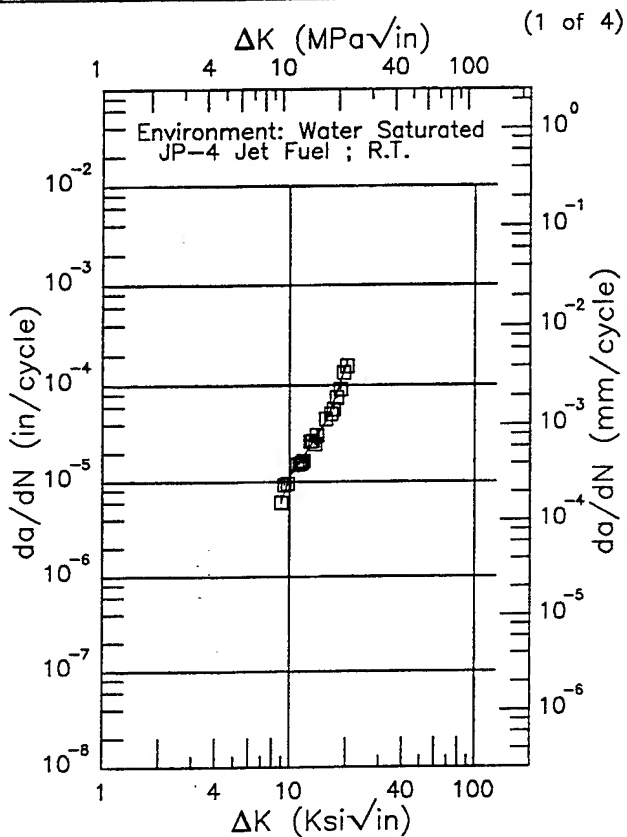
0. .5 .8 1.25 2.---

Figure 8.9.3.1.33 (Concluded)

E 7075

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 0.1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
8.99 (min)	6.38
9.	6.44
10.	11.3
13.	24.1
16.	46.7
20.	156.
20.08 (max)	161.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
9.16 (min)	9.22
10.	11.4
13.	29.1
16.	52.8
19.65 (max)	195.

RMS %
 Error
 9.43

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

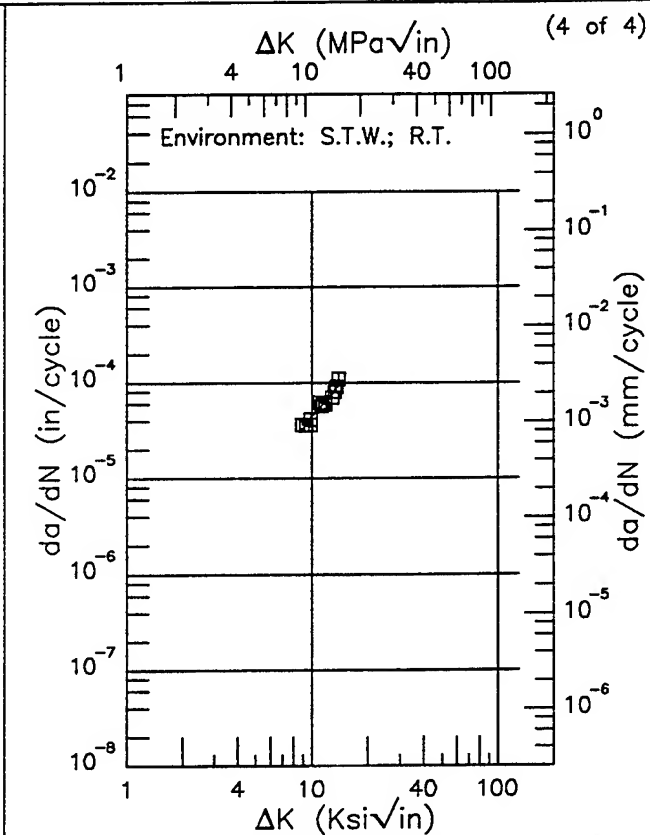
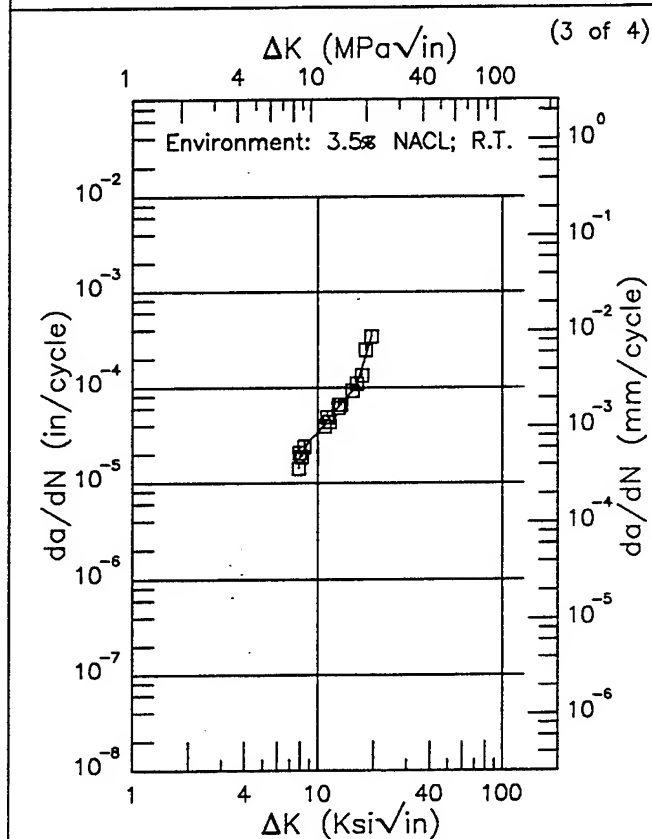
RMS %
 Error
 9.26

Life Prediction Ratio Summary
 0. .5 .8 1.25 2. ---

Figure 8.9.3.1.34

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 0.1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
7.86 (min)	17.8
8.	19.3
9.	28.0
10.	33.6
13.	62.8
16.	102.
19.42 (max)	347.

ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
8.86 (min)	31.9
9.	33.5
10.	44.1
13.	78.1
13.91 (max)	94.4

RMS %
 Error
 9.72

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 8.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.34 (Concluded)

E

7075

Condition/Ht: T651

Form: 0.63 in. Plate

Specimen Type: DCB

Orientation: T-L

Stress Ratio: 0.1

Frequency: 1 Hz

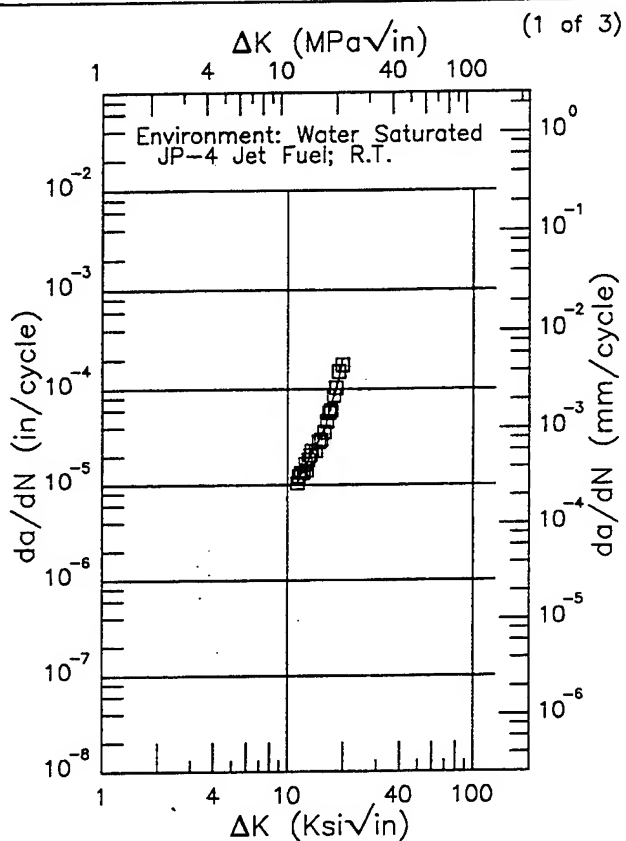
Yield Strength:

Ult. Strength:

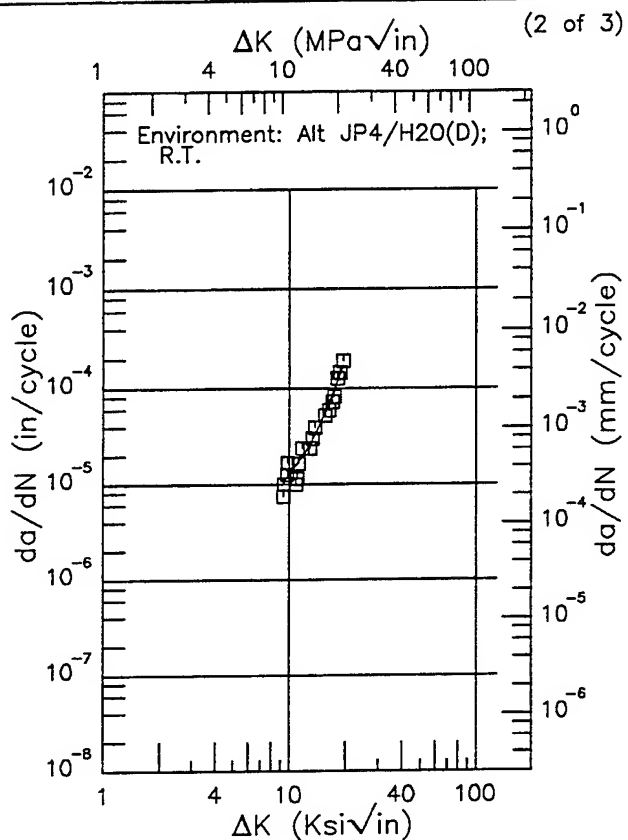
Specimen Thk:

Specimen Width:

Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
11.25 (min)	10.9
13.	18.4
16.	41.5
19.59 (max)	179.



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
9.25 (min)	10.6
10.	12.5
13.	26.1
16.	60.5
19.37 (max)	167.

RMS %
Error

7.46

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
Error

19.14

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.35

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.1
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140

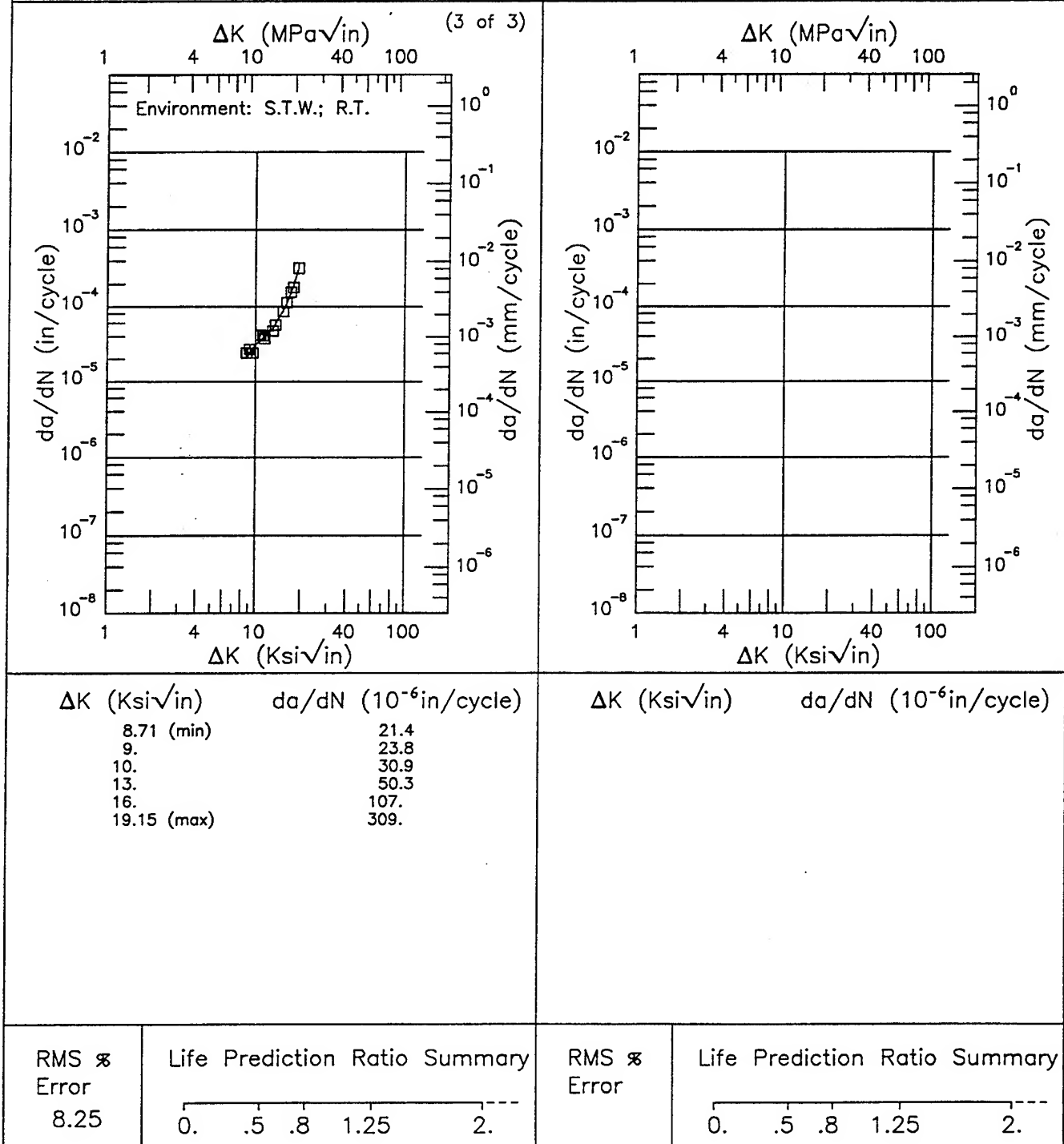
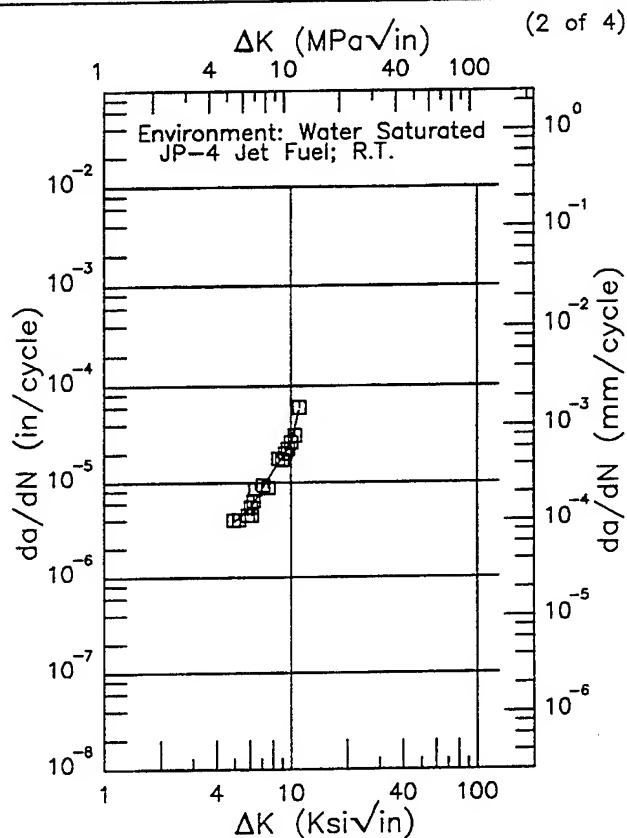
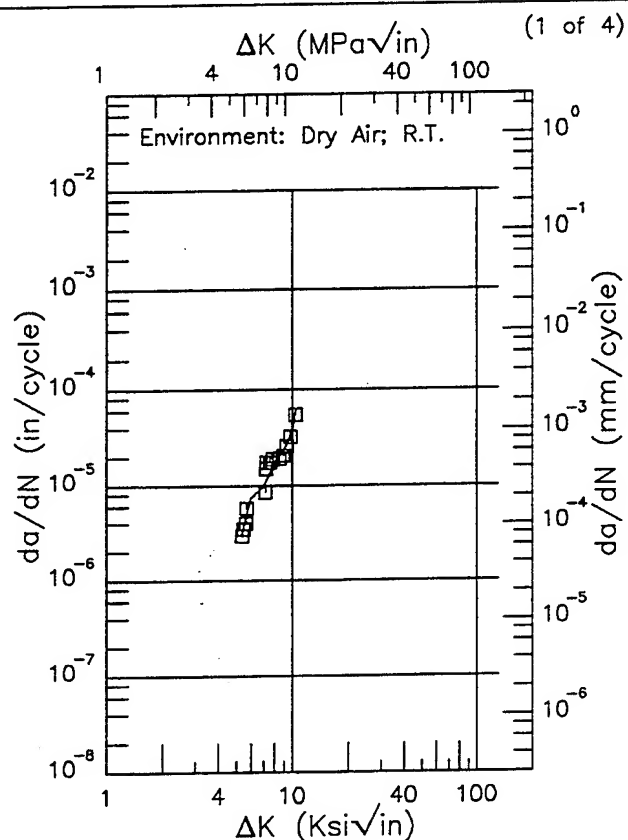


Figure 8.9.3.1.35 (Concluded)

E 7075

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 0.1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.35 (min)	3.00
6.	7.50
7.	9.82
8.	17.5
9.	24.0
10.	37.7
10.31 (max)	57.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.90 (min)	3.85
5.	3.88
6.	5.30
7.	8.56
8.	13.2
9.	18.3
10.	25.4
11.02 (max)	56.5

RMS %
 Error
 20.64

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 12.46

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.36

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 0.1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140

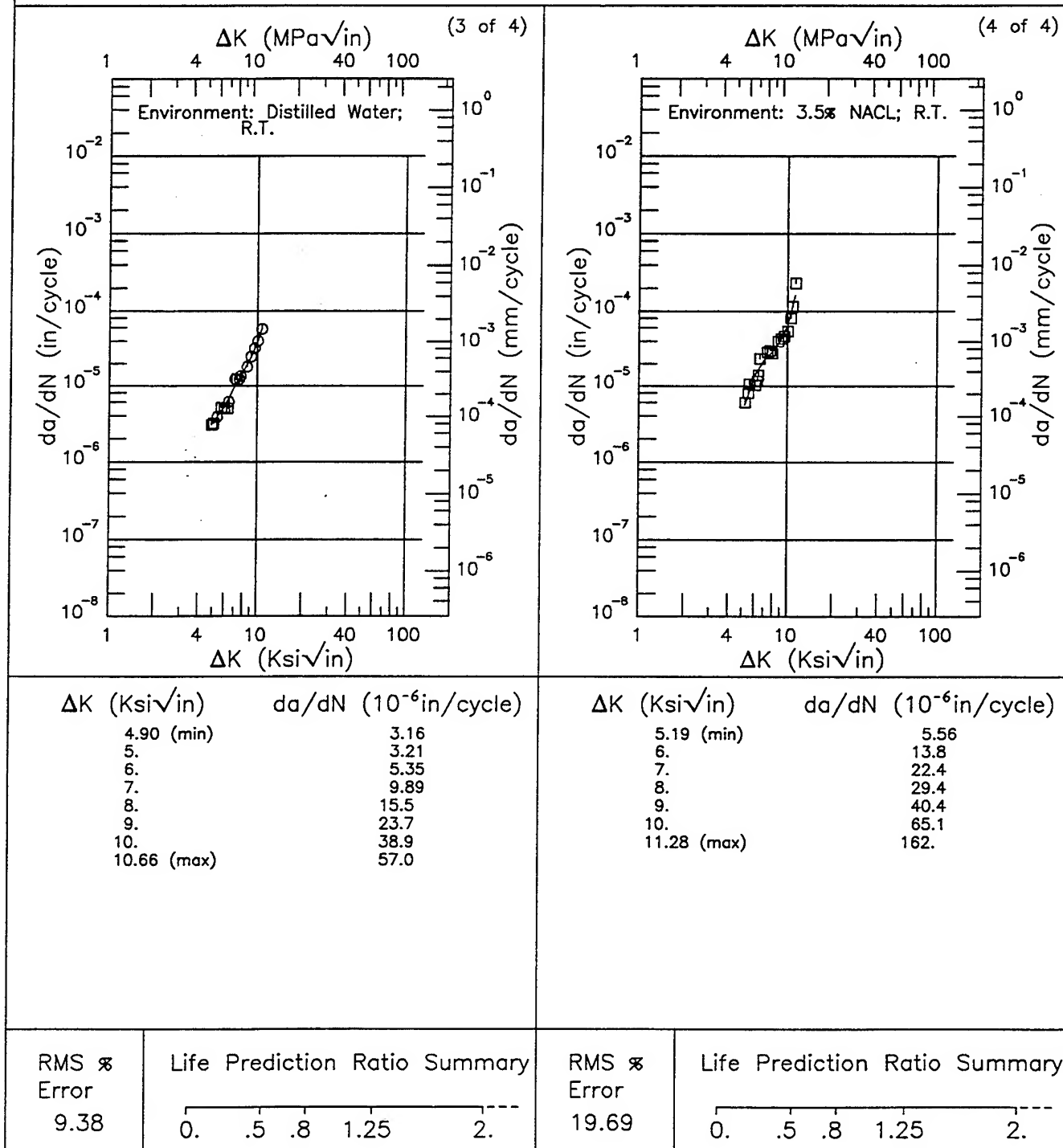
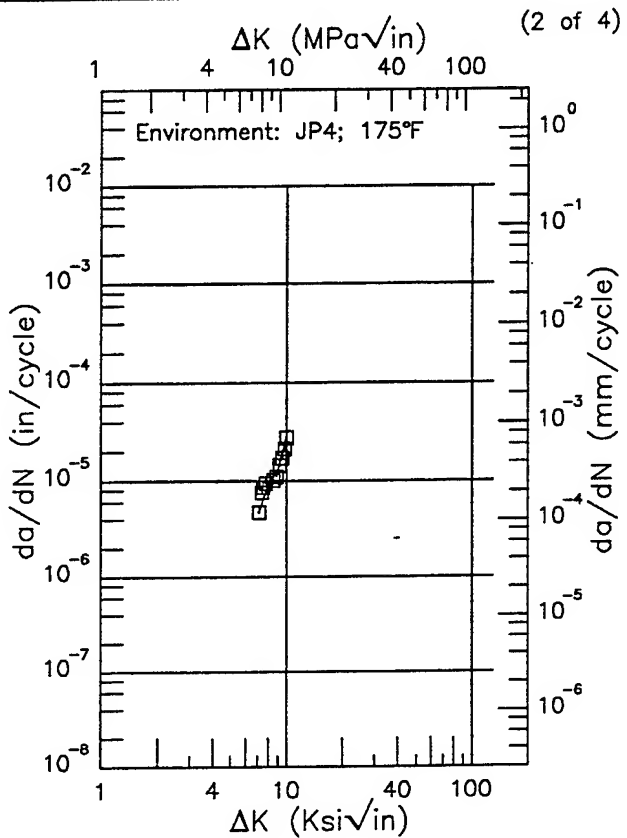
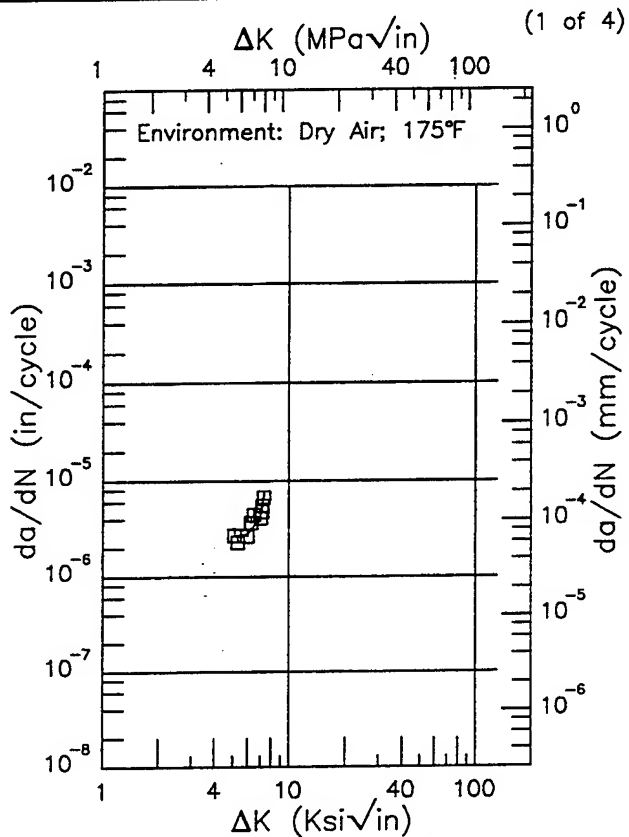


Figure 8.9.3.1.36 (Concluded)

E 7075

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 1 Hz

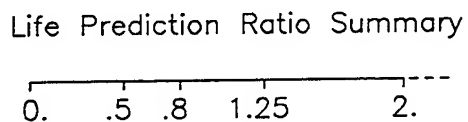
Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.11 (min)	2.67
6.	2.80
7.	4.13
7.31 (max)	7.06

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.10 (min)	4.69
8.	9.44
9.	12.7
9.99 (max)	27.2

RMS %
 Error
 13.68



RMS %
 Error
 18.28

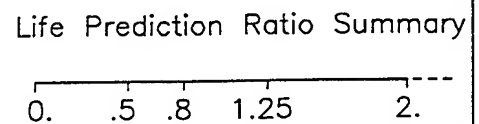
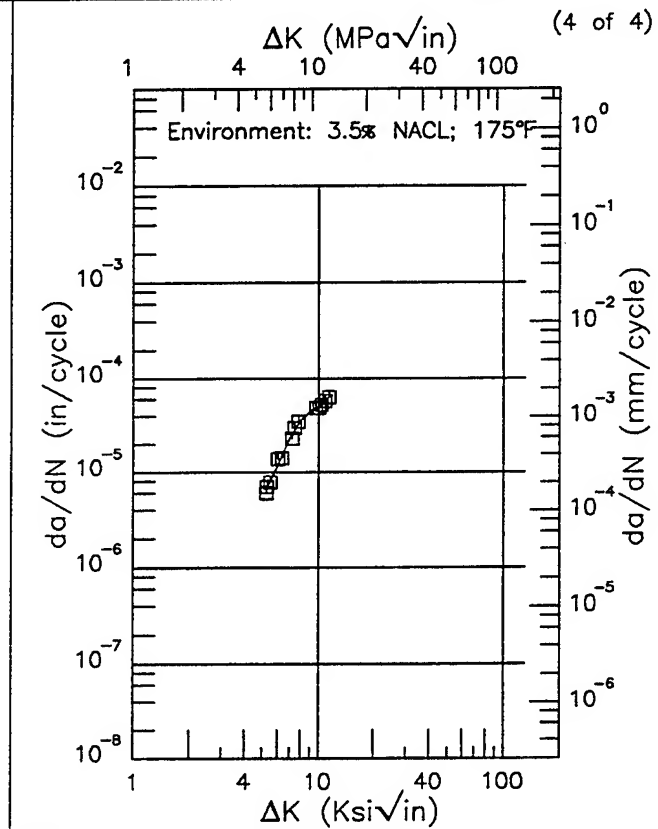
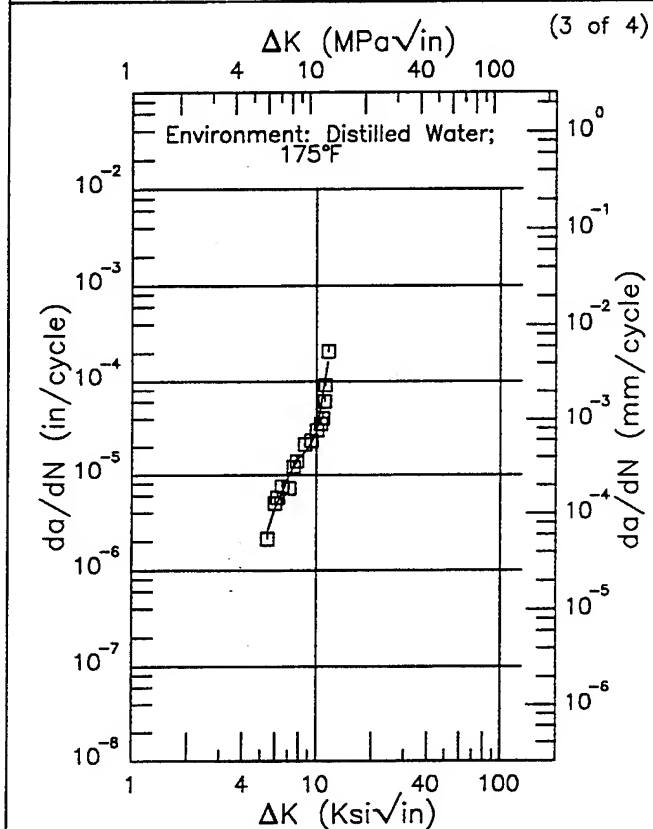


Figure 8.9.3.1.37

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.41 (min)	2.42
6.	4.47
7.	9.53
8.	15.2
9.	19.4
10.	28.7
11.51 (max)	160.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.23 (min)	6.59
6.	11.7
7.	22.9
8.	36.1
9.	44.5
10.	49.6
11.40 (max)	63.3

RMS %
 Error
 21.67

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 5.84

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.37 (Concluded)

E | 7075 |

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140

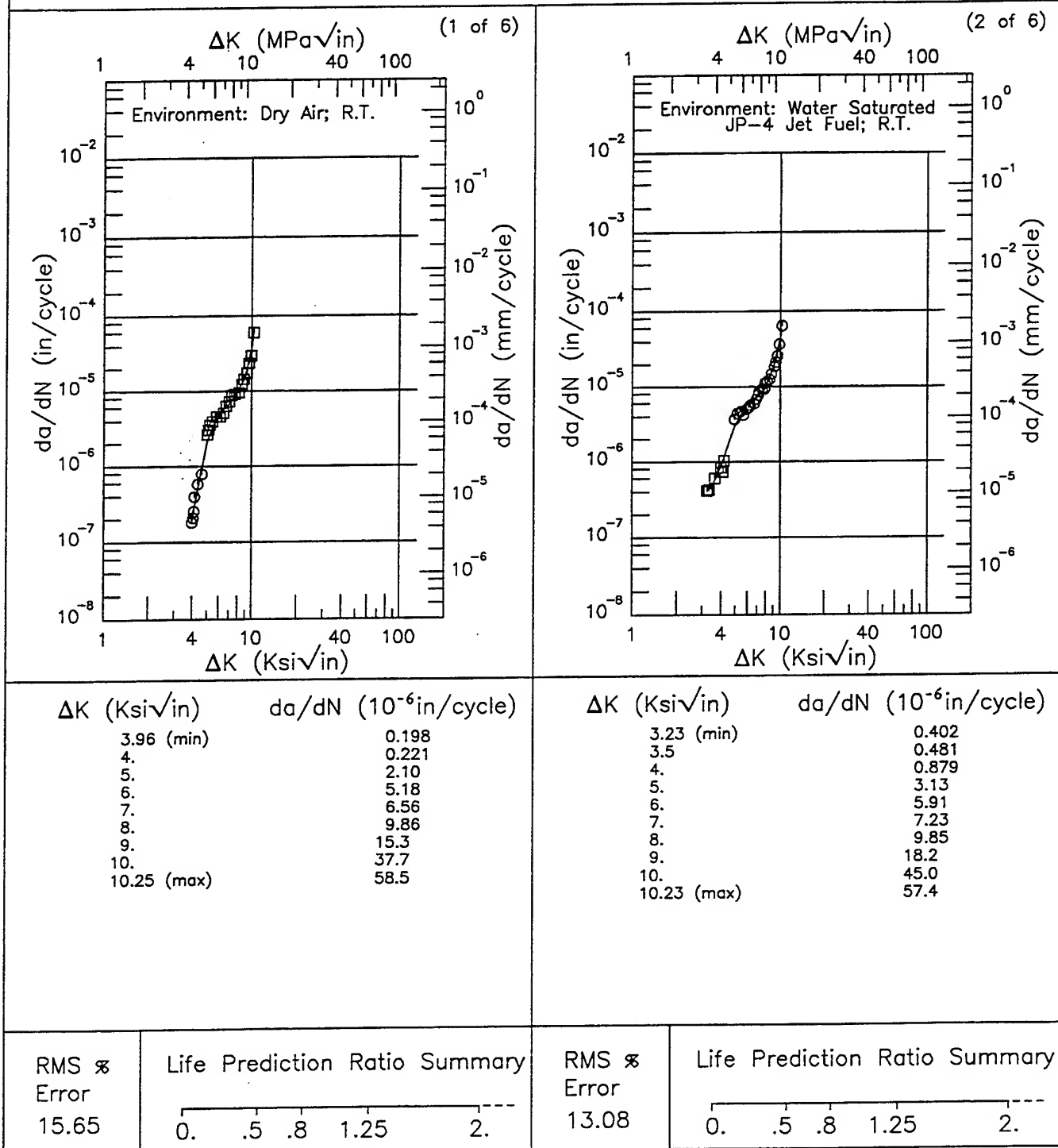
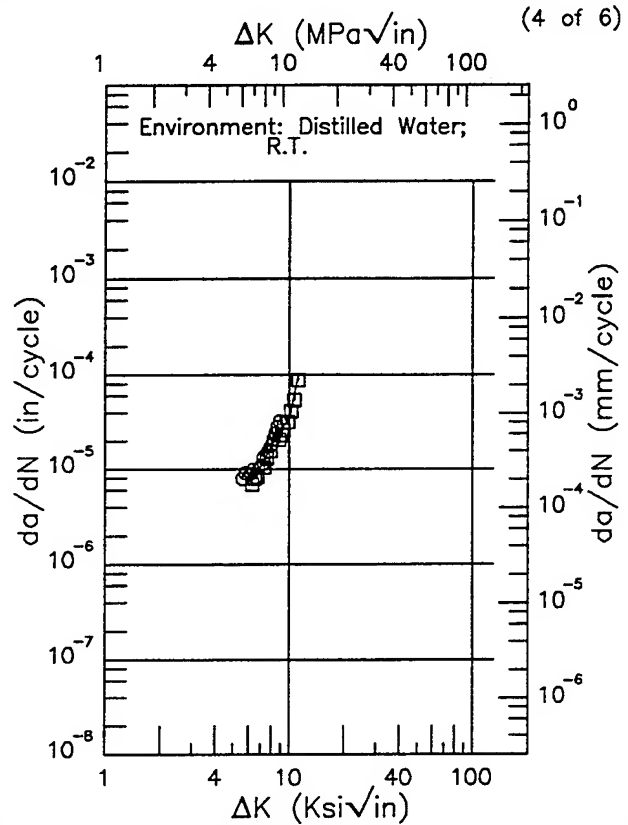
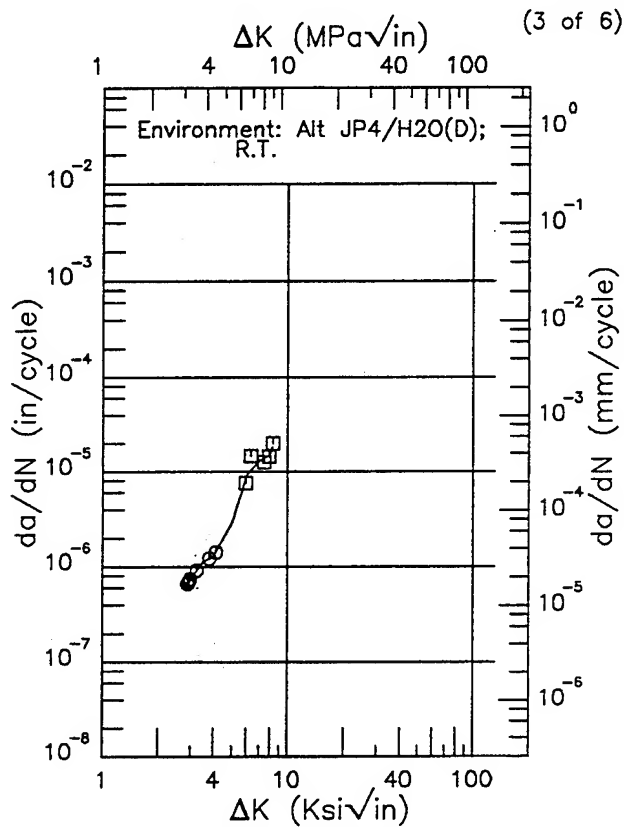


Figure 8.9.3.1.38

Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
2.88 (min)	0.605
3.	0.745
3.5	1.12
4.	1.31
5.	2.89
6.	9.16
7.	13.0
8.	15.2
8.30 (max)	18.5

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
5.58 (min)	9.16
6.	8.02
7.	10.5
8.	17.5
9.	26.4
10.	34.8
11.15 (max)	92.6

RMS %
 Error
 14.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 13.28

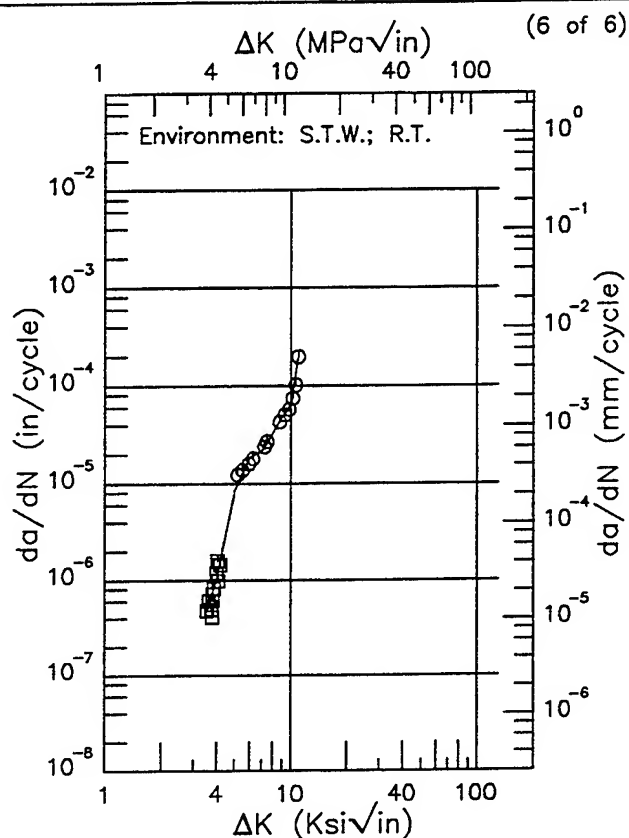
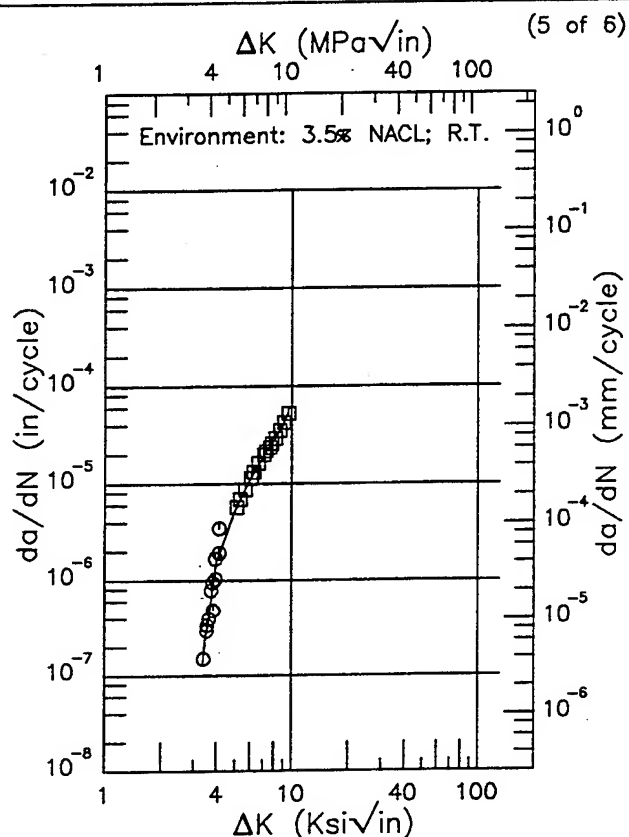
Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.138 (Continued)

E 7075
 Condition/Ht: T651
 Form: 0.63 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Stress Ratio: 0.5
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk:
 Specimen Width:
 Ref: 88140



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.38 (min)	0.133
3.5	0.264
4.	1.55
5.	5.40
6.	11.1
7.	18.8
8.	27.8
9.	40.6
9.54 (max)	52.9

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.53 (min)	0.463
4.	1.02
5.	8.27
6.	18.7
7.	21.5
8.	32.7
9.	49.0
10.	62.3
10.94 (max)	193.

RMS %
 Error
 23.74

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 17.16

Life Prediction Ratio Summary

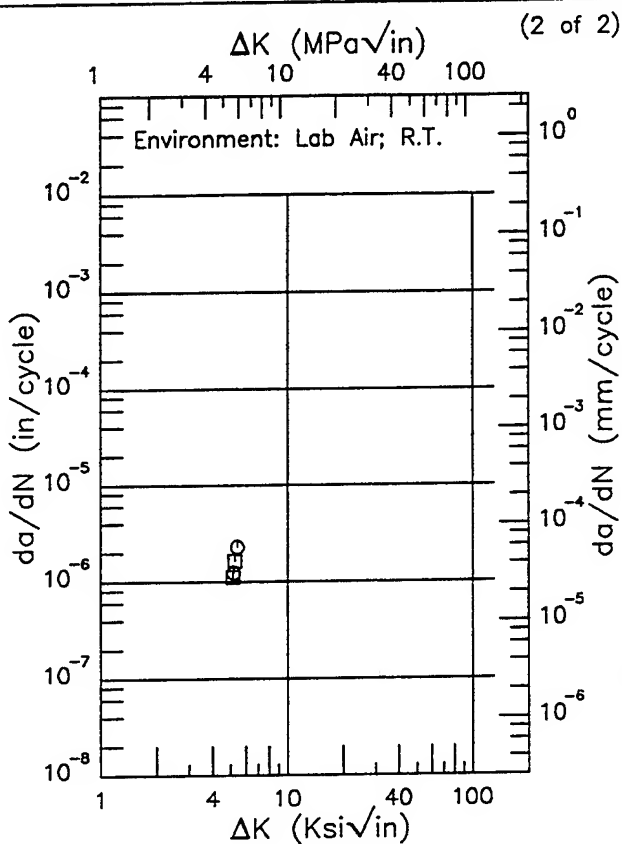
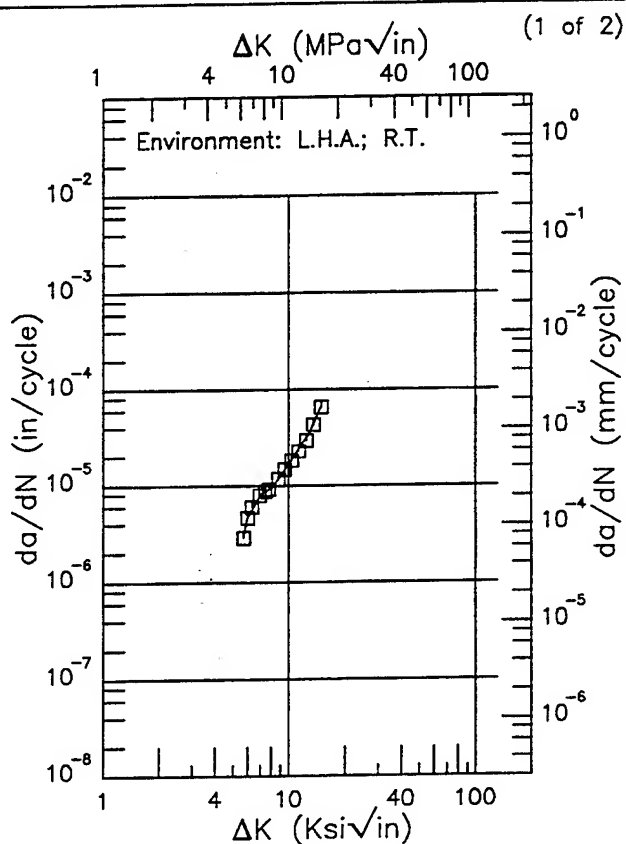
0. .5 .8 1.25 2.---

Figure 8.9.3.138 (Concluded)

7075

Condition/Ht: T6510
 Form: 0.68 in. Extrusion
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.33
 Frequency: 5.2 Hz

Yield Strength: 82.4 ksi
 Ult. Strength: 90.4 ksi
 Specimen Thk: 0.663 - 0.666 in.
 Specimen Width: 3.004 - 3.006 in.
 Ref: AL005;AL002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.67 (min)	2.95
6.	4.67
7.	8.03
8.	9.45
9.	12.5
10.	16.8
13.	35.6
14.80 (max)	64.8

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 3.84

Life Prediction Ratio Summary

RMS %
 Error

Life Prediction Ratio Summary

Figure 8.9.3.1.40

Condition/Ht: T6510
 Form: 0.68 in. Extrusion
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength: 82.4 ksi
 Ult. Strength: 90.4 ksi
 Specimen Thk: 0.626 - 0.627 in.
 Specimen Width: 3.004 - 3.005 in.
 Ref: AL005

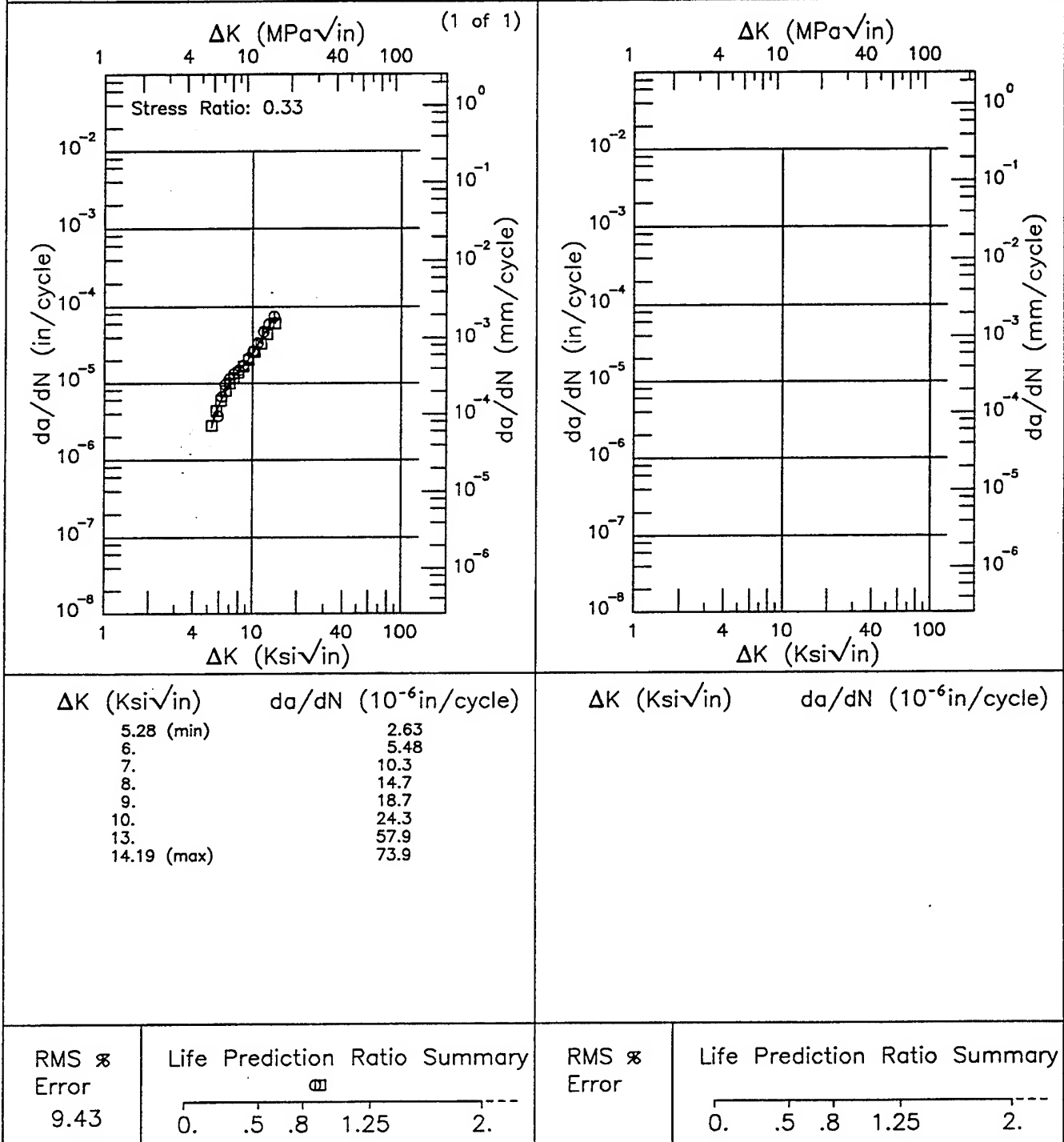


Figure 8.9.3.1.41

R 7075

Condition/Ht: T6510
 Form: 3.5 in. Extruded Bar
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength: 75.7 ksi
 Ult. Strength: 85.4 ksi
 Specimen Thk: 0.751 in.
 Specimen Width: 3.003 - 3.005 in.
 Ref: AL005

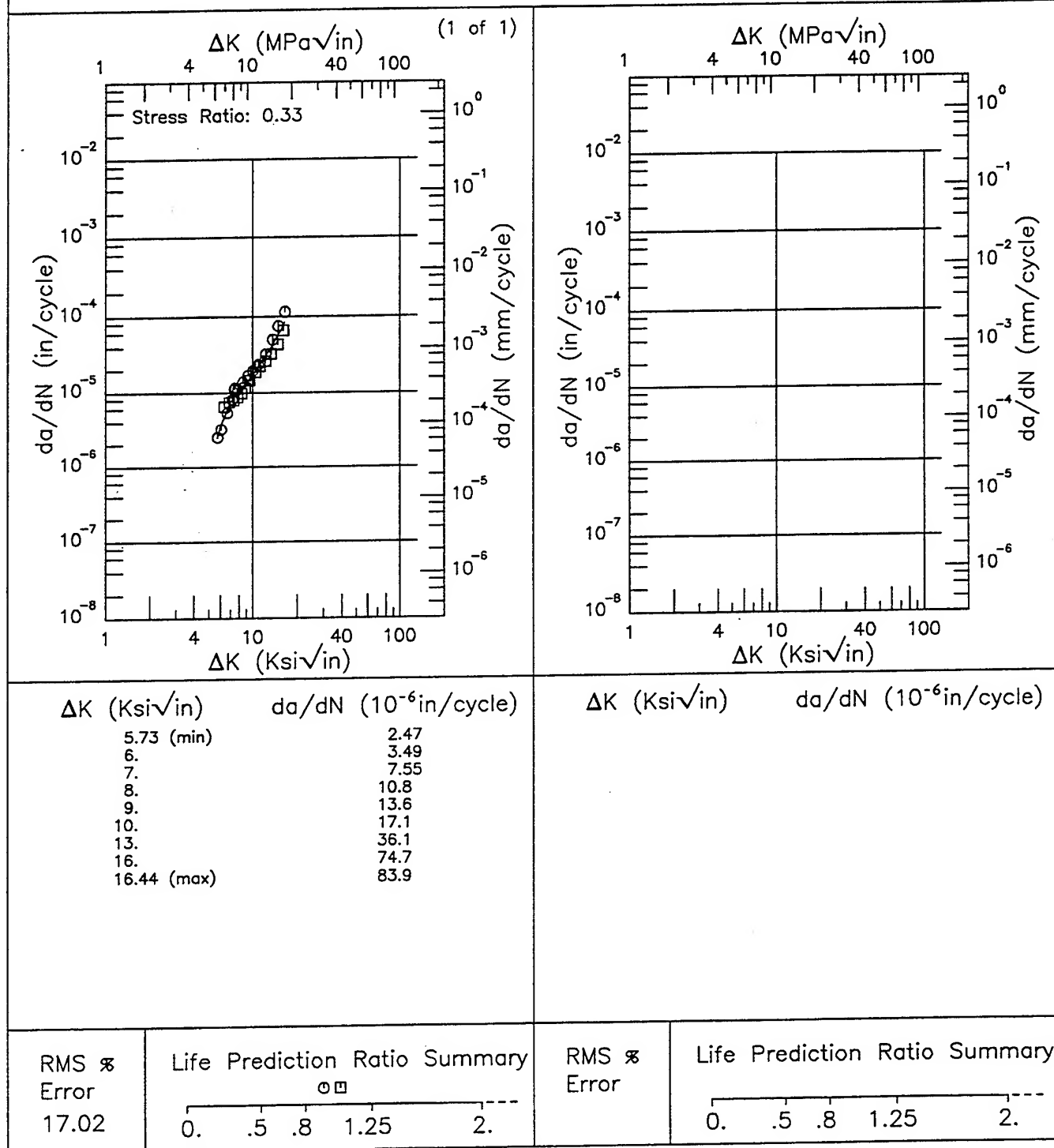


Figure 8.9.3.1.42

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R

7075

Condition/Ht: T6511

Form: Extrusion

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency:

Environment: LAB AIR; RT

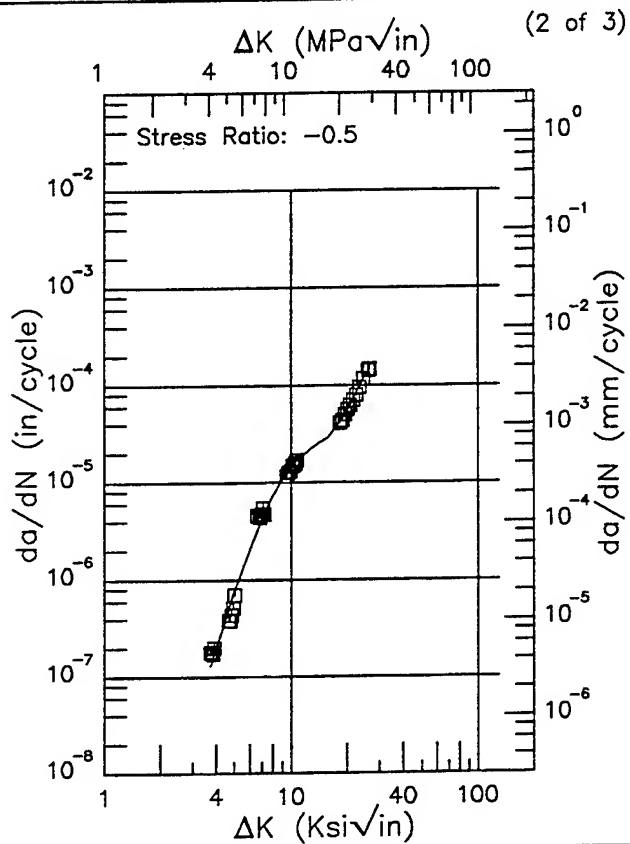
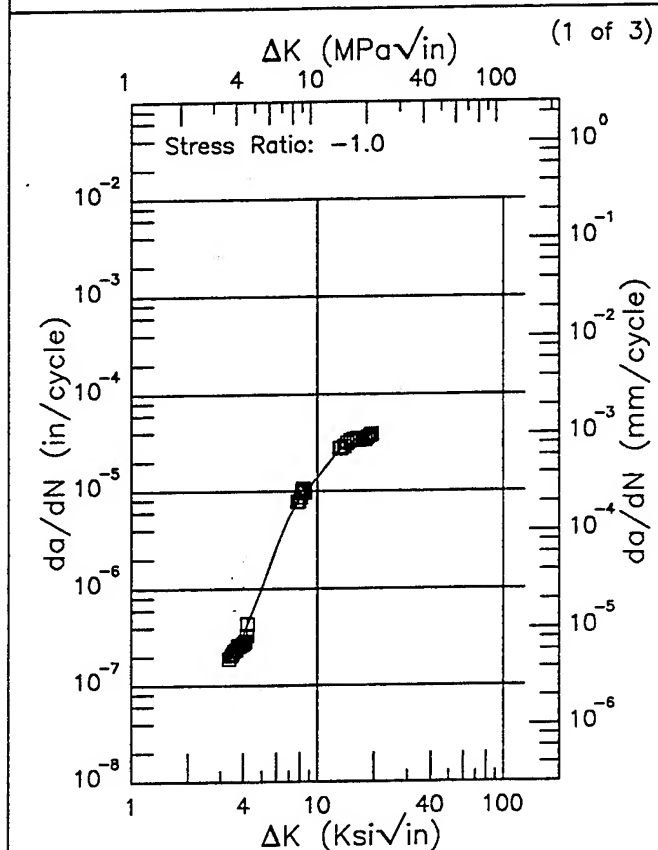
Yield Strength: 79.5 ksi

Ult. Strength:

Specimen Thk: 0.244 - 0.252 in.

Specimen Width: 8.997 - 9 in.

Ref: DA001

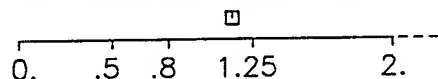


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.32 (min)	0.184
3.5	0.209
4.	0.336
5.	1.01
6.	2.64
7.	5.37
8.	8.39
9.	11.1
10.	13.8
13.	26.1
16.	34.3
19.42 (max)	40.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.72 (min)	0.131
4.	0.203
5.	0.759
6.	2.02
7.	4.22
8.	7.33
9.	11.0
10.	14.8
13.	23.0
16.	29.5
20.	53.9
25.	125.
26.40 (max)	142.

RMS %
Error
8.30

Life Prediction Ratio Summary



RMS %
Error
16.68

Life Prediction Ratio Summary

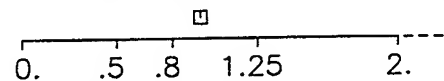


Figure 8.9.3.1.43

Condition/Ht: T6511
 Form: Extrusion
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency:
 Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
 Ult. Strength:
 Specimen Thk: 0.244 - 0.252 in.
 Specimen Width: 8.997 - 9 in.
 Ref: DA001

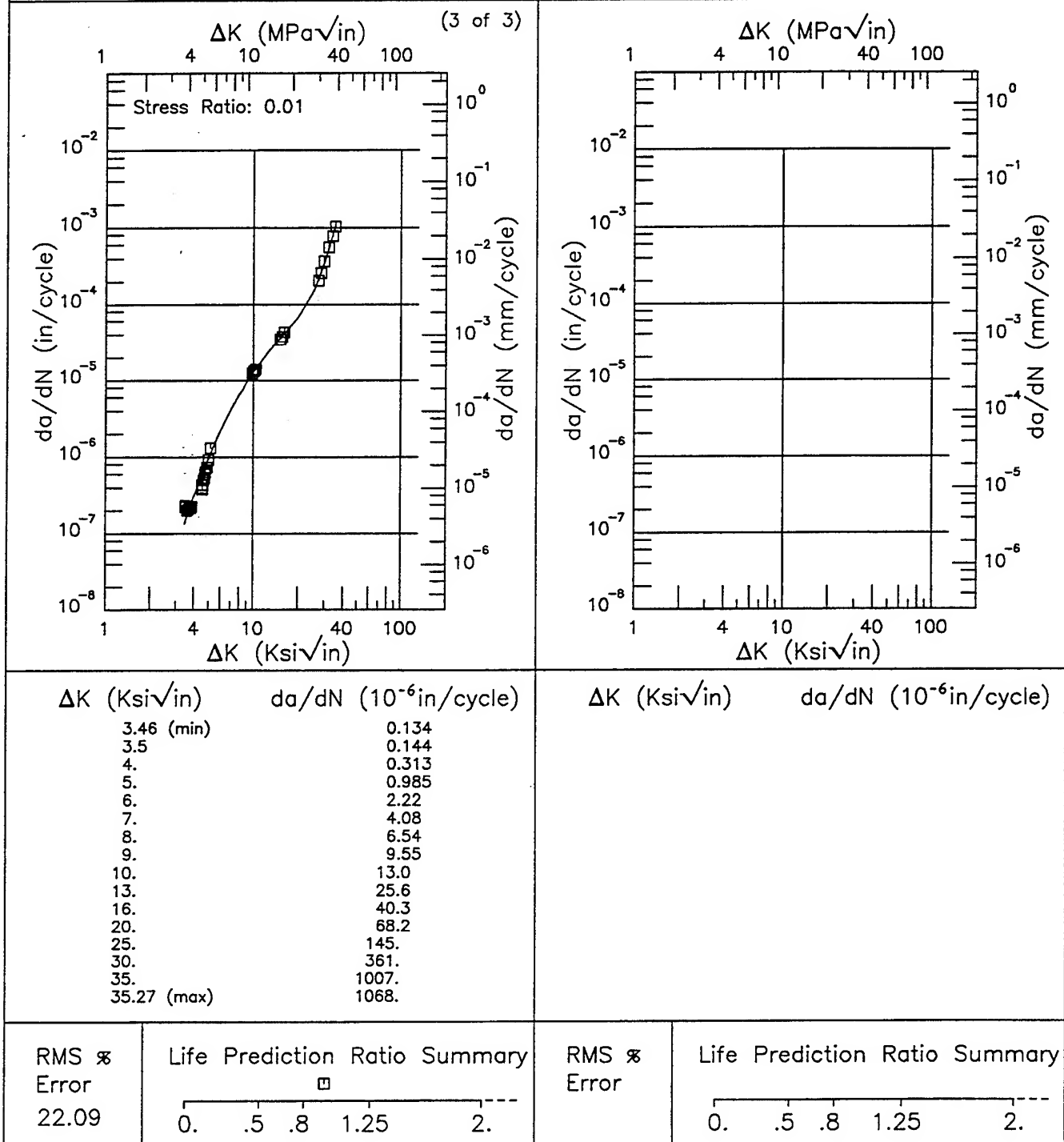


Figure 8.9.3.1.43 (Concluded)

R

7075

Condition/Ht: T6511

Form: Extrusion

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 0.5 Hz

Environment: S.T.W.; RT

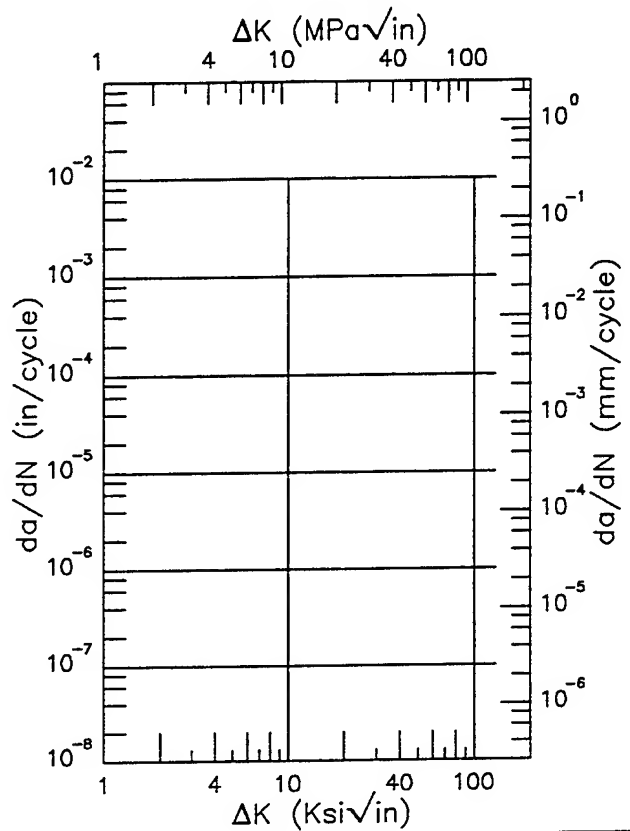
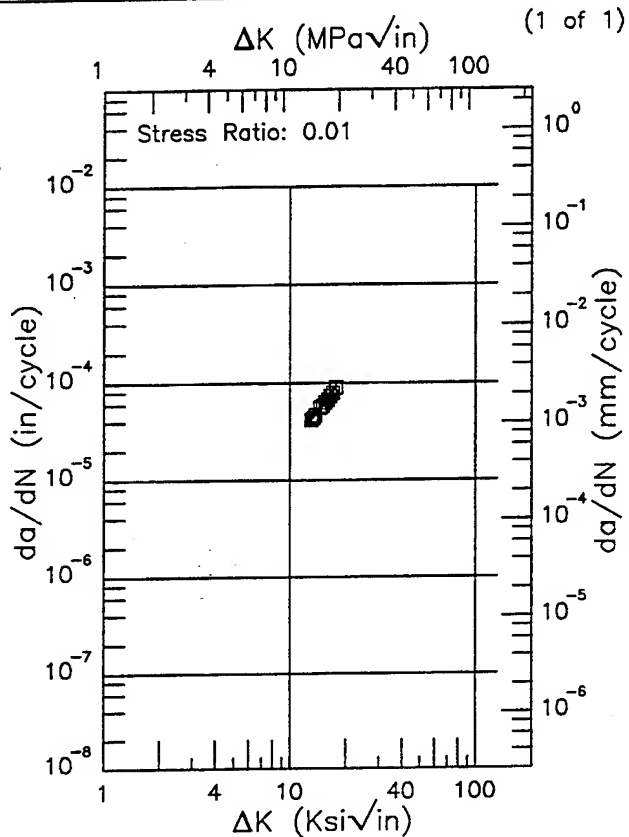
Yield Strength: 79.5 ksi

Ult. Strength:

Specimen Thk: 0.247 in.

Specimen Width: 9 in.

Ref: DA001

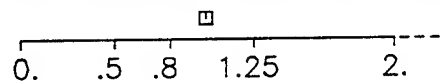


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
12.98 (min)	41.6
13.	41.6
16.	67.6
17.63 (max)	89.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
Error
1.72

Life Prediction Ratio Summary



RMS %
Error

Life Prediction Ratio Summary

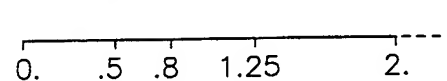


Figure 8.9.3.1.44

Condition/Ht: T6511
 Form: Extrusion
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 5 Hz
 Environment: LAB AIR; RT

Yield Strength: 79.5 ksi
 Ult. Strength:
 Specimen Thk: 0.251 in.
 Specimen Width: 8.998 in.
 Ref: DA001

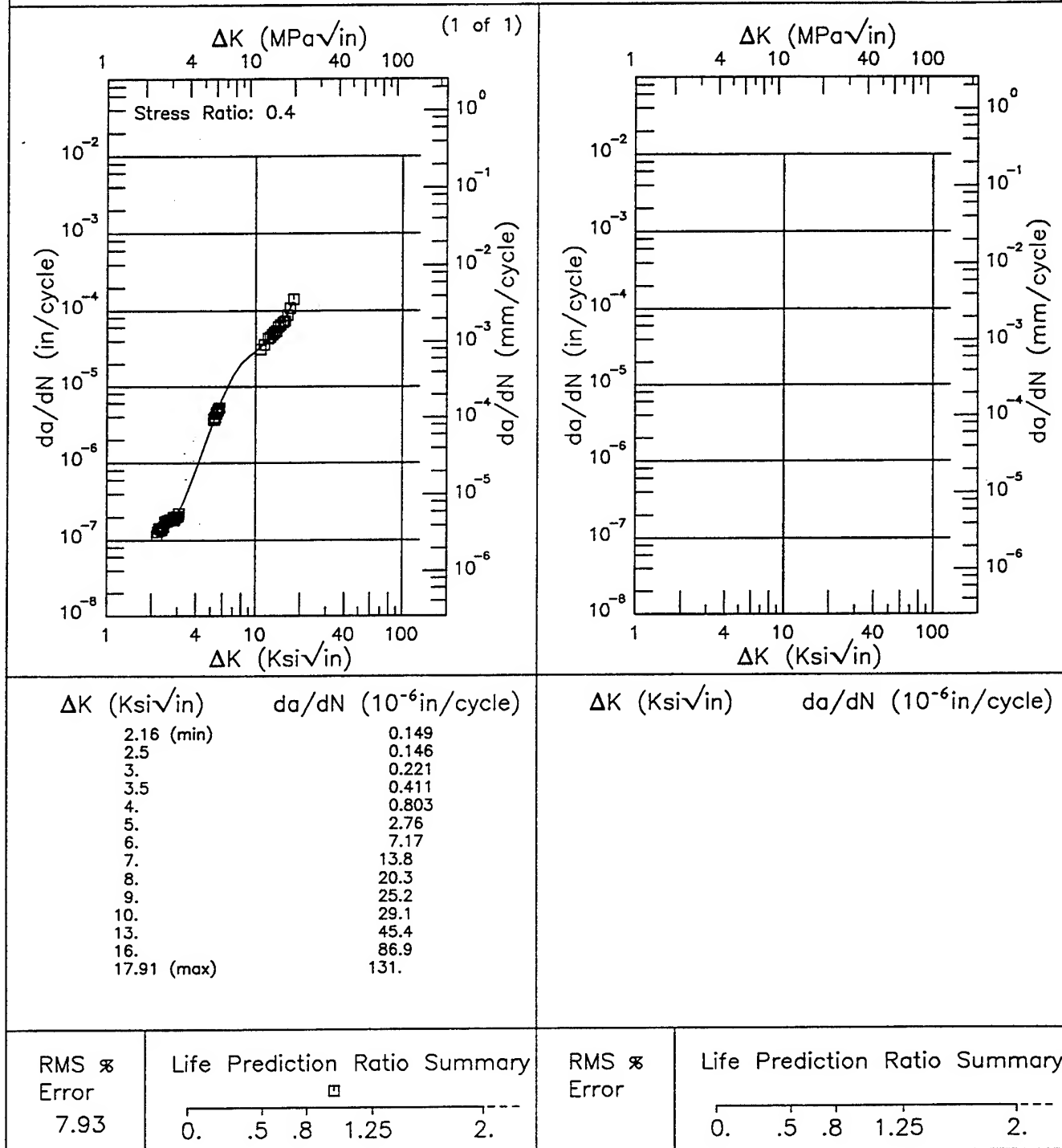


Figure 8.9.3.1.45

R

7075

Condition/Ht: T6511

Form: Extrusion

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency:

Environment: LAB AIR; RT

Yield Strength: 79.5 ksi

Ult. Strength:

Specimen Thk: 0.25 in.

Specimen Width: 9 in.

Ref: DA001

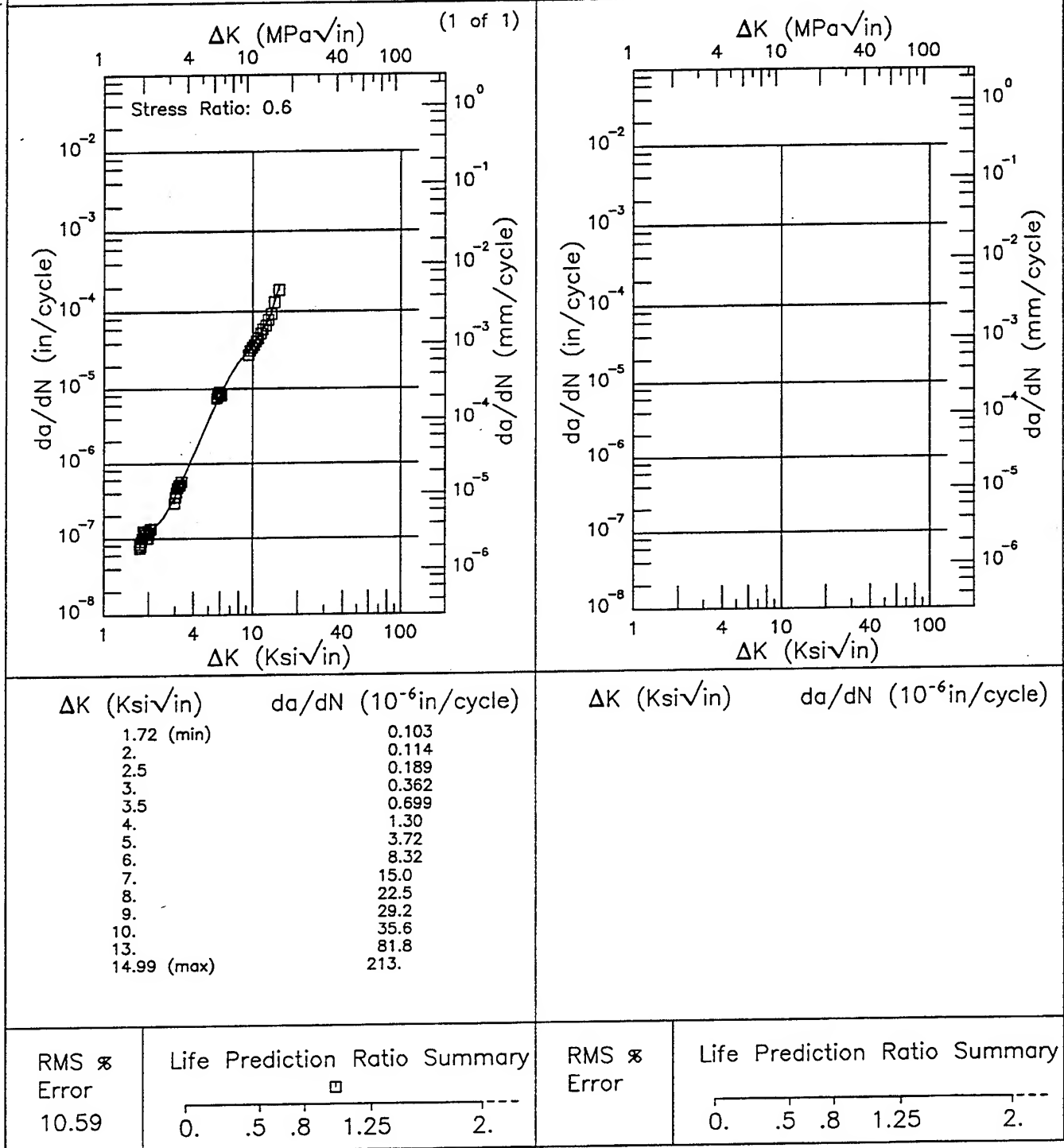


Figure 8.9.3.1.46

Condition/Ht: T6511

Form: Extrusion

Specimen Type: CCP (max stress specified)

Orientation: L-T

Stress Ratio: 0.8

Yield Strength: 79.5 ksi

Ult. Strength:

Specimen Thk: 0.246 - 0.25 in.

Specimen Width: 9 in.

Ref: DA001

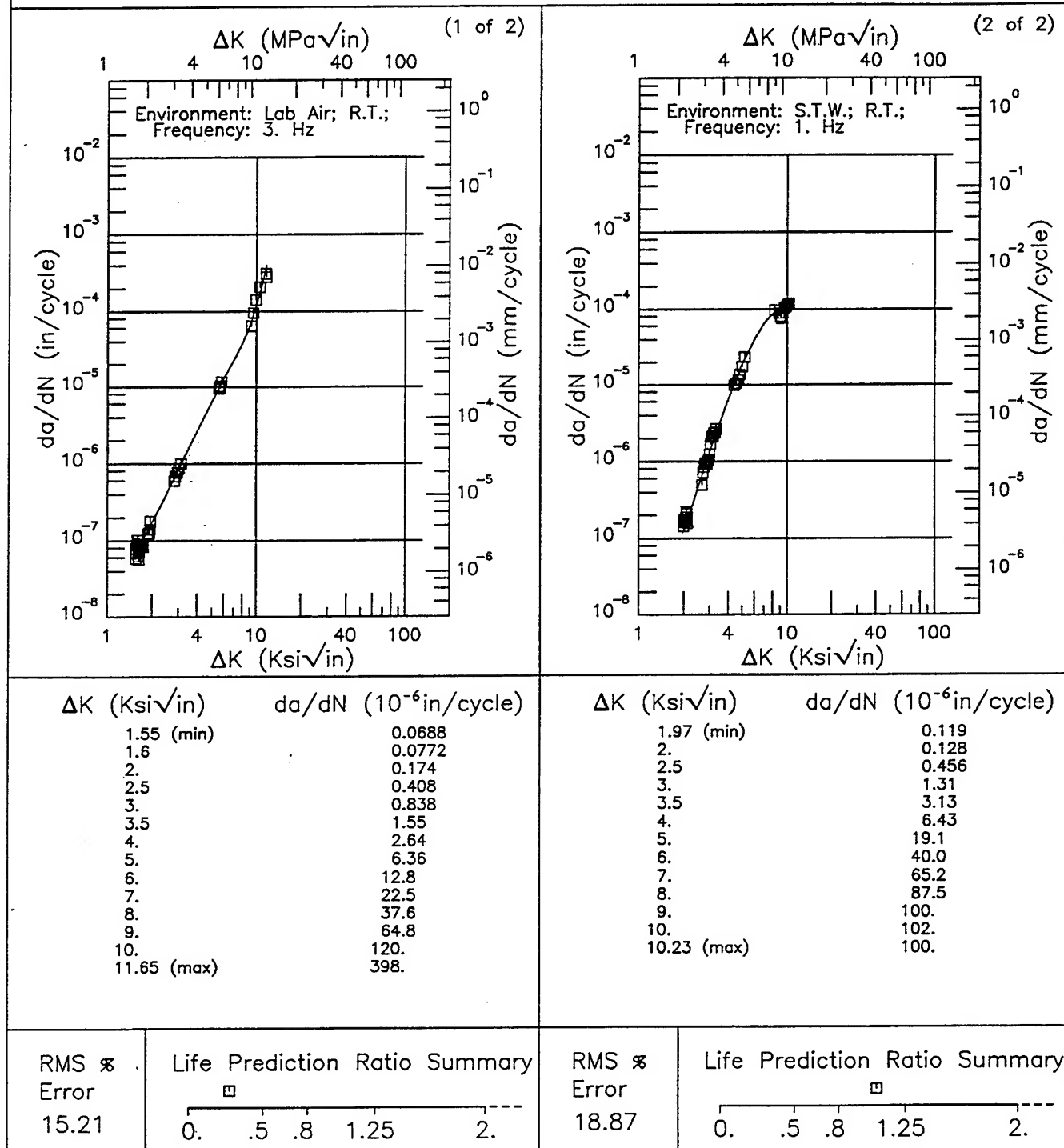


Figure 8.9.3.1.47

R

7075

Condition/Ht: T6511

Form: Extrusion

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 9 Hz

Environment: H.H.A.; RT

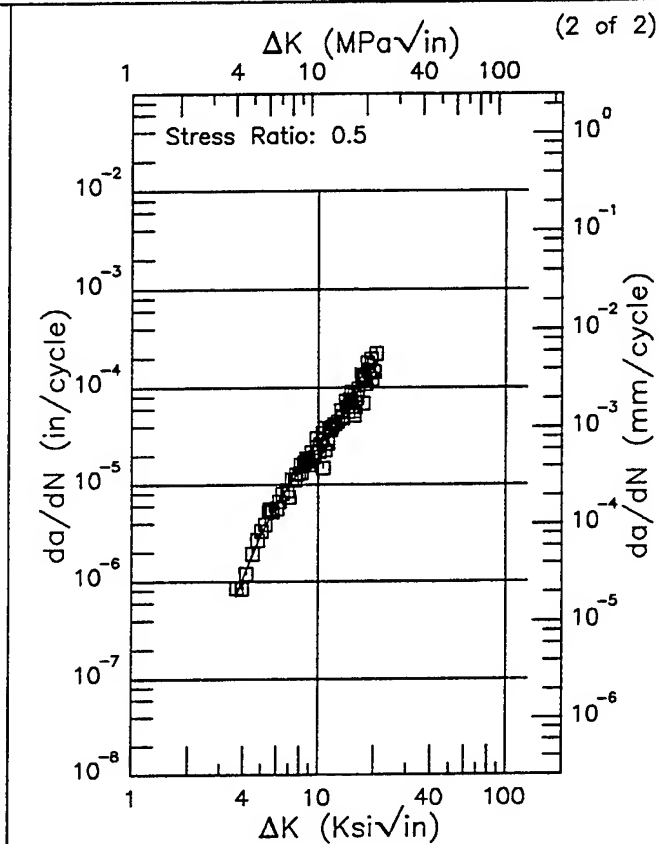
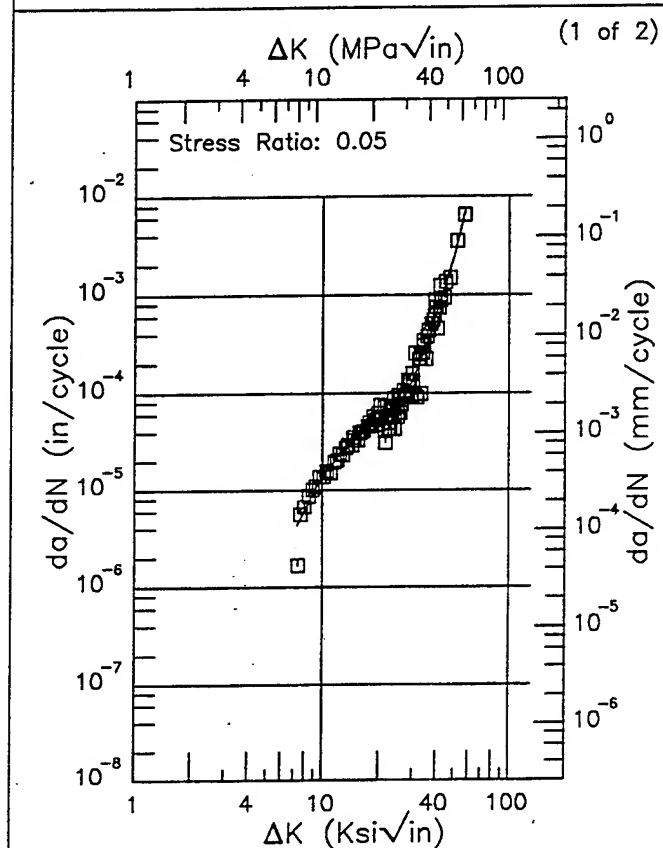
Yield Strength: 81.5 ksi

Ult. Strength: 88.6 ksi

Specimen Thk: 0.15 in.

Specimen Width: 5.95 in.

Ref: BW001



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
7.39 (min)	4.34
8.	6.21
9.	9.82
10.	13.8
13.	26.3
16.	37.8
20.	52.4
25.	76.9
30.	134.
35.	286.
40.	647.
50.	2433.
56.72 (max)	6823.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.68 (min)	0.699
4.	1.10
5.	3.07
6.	5.98
7.	9.63
8.	13.9
9.	18.7
10.	24.2
13.	46.4
16.	82.7
20.	176.
20.47 (max)	192.

RMS %
Error

21.97

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

16.82

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.48

Condition/Ht: T6511
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 40 Hz
 Environment: LAB AIR; RT

Yield Strength: 50 ksi
 Ult. Strength:
 Specimen Thk: 0.24 - 0.246 in.
 Specimen Width: 1.999 - 2 in.
 Ref: SA001

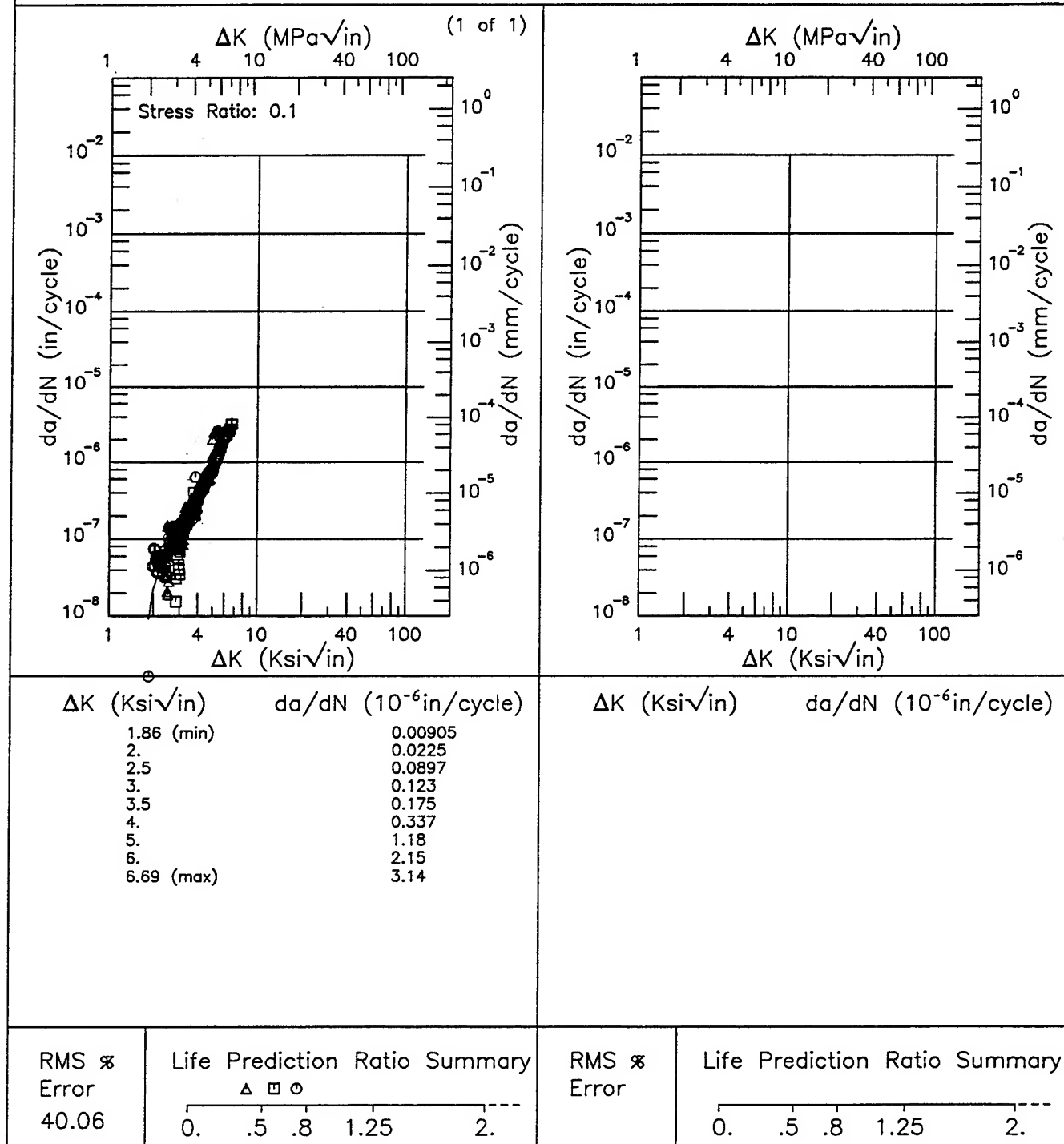


Figure 8.9.3.1.49

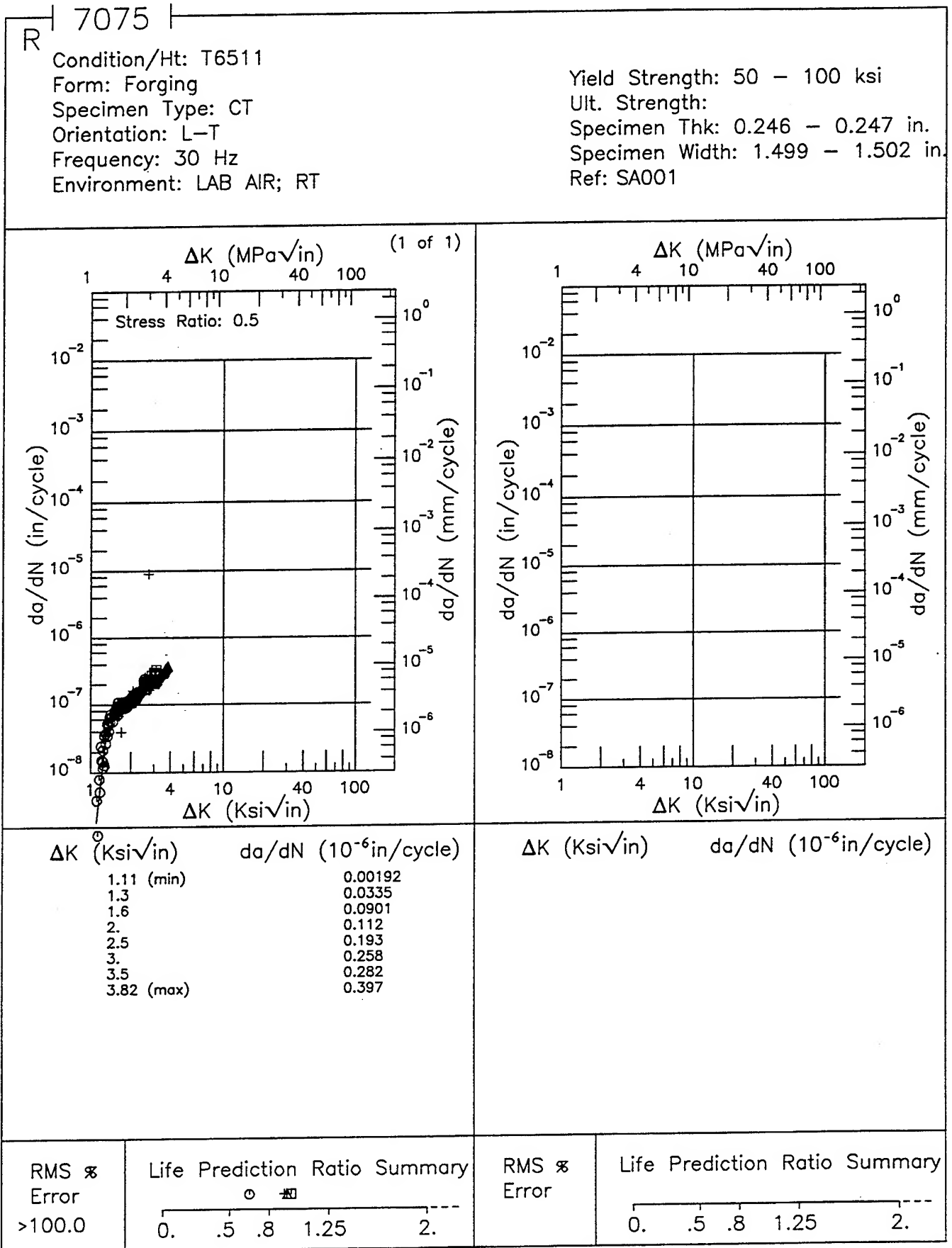


Figure 8.9.3.1.50

Condition/Ht: T6511 #6
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 50 ksi
 Ult. Strength:
 Specimen Thk: 0.247 in.
 Specimen Width: 1.499 in.
 Ref: SA001

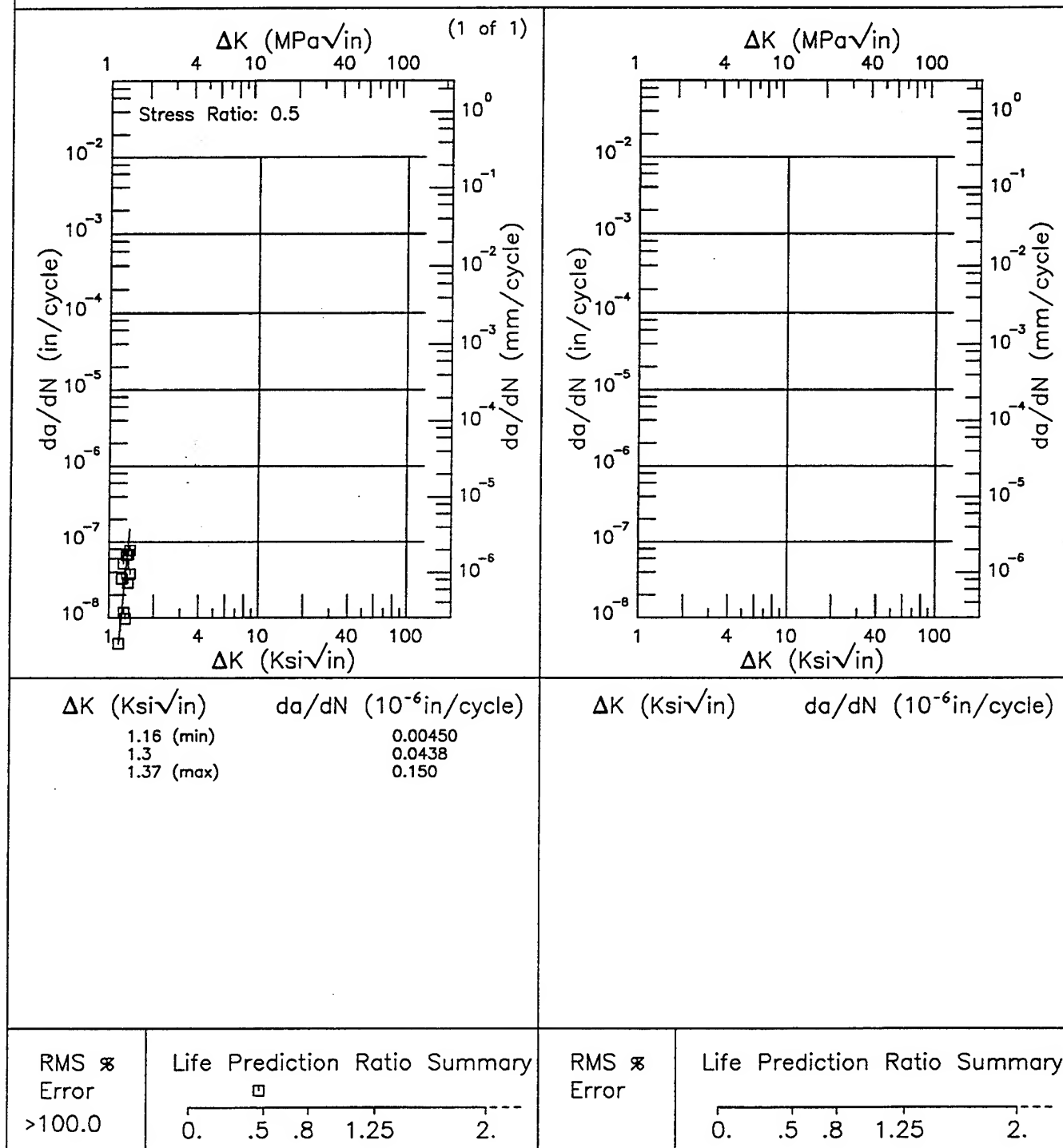


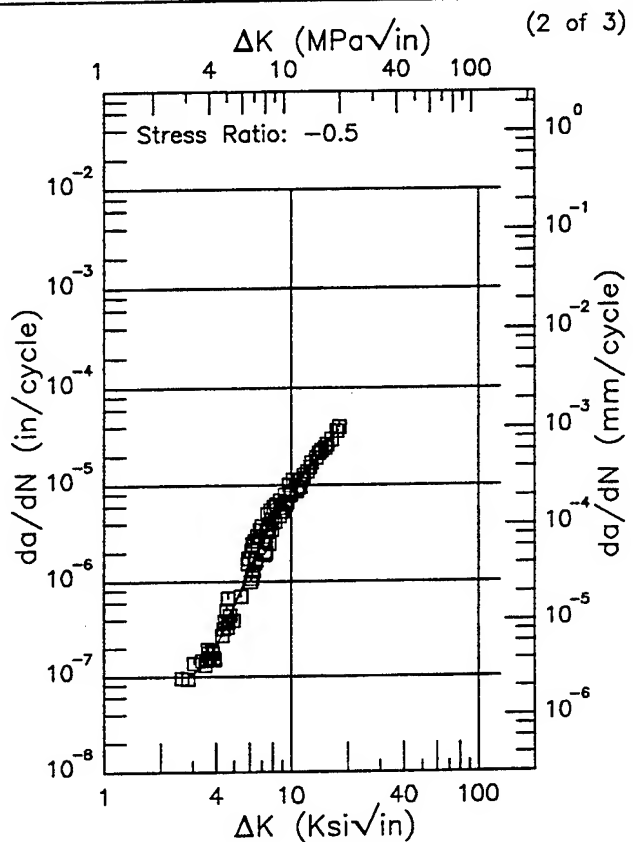
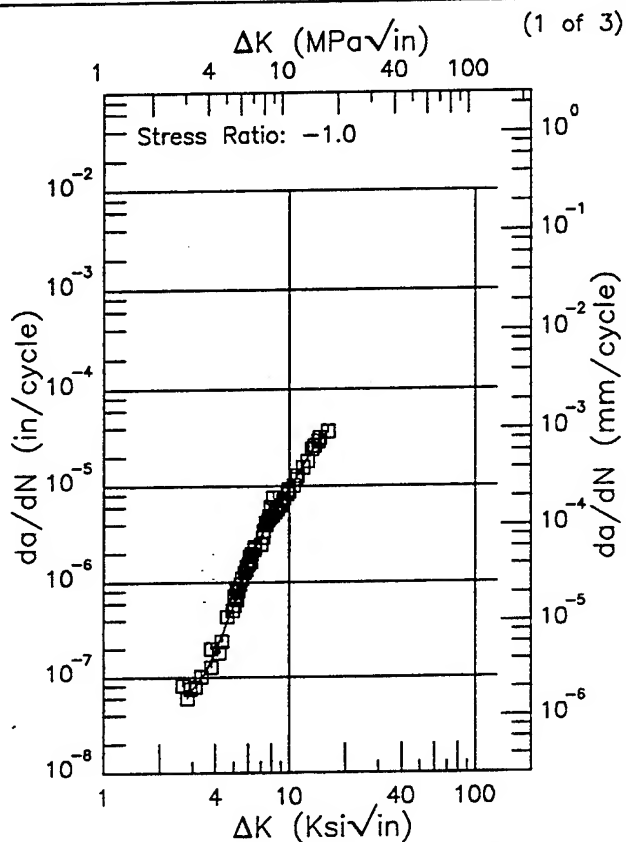
Figure 8.9.3.1.51

R

7075

Condition/Ht: T73
 Form: 0.5 in. Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 56 ksi
 Ult. Strength: 67.1 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 3 in.
 Ref: UD006



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.66 (min)	0.0716
3.	0.0749
3.5	0.108
4.	0.184
5.	0.569
6.	1.49
7.	3.04
8.	4.85
9.	6.78
10.	9.02
13.	22.2
16.	36.4
16.08 (max)	36.4

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.60 (min)	0.112
3.	0.106
3.5	0.137
4.	0.209
5.	0.551
6.	1.34
7.	2.71
8.	4.53
9.	6.49
10.	8.53
13.	16.4
16.	29.3
17.97 (max)	37.7

RMS %
 Error
 12.11

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 22.83

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.52

Condition/Ht: T73
 Form: 0.5 in. Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 56 ksi
 Ult. Strength: 67.1 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 3 in.
 Ref: UD006

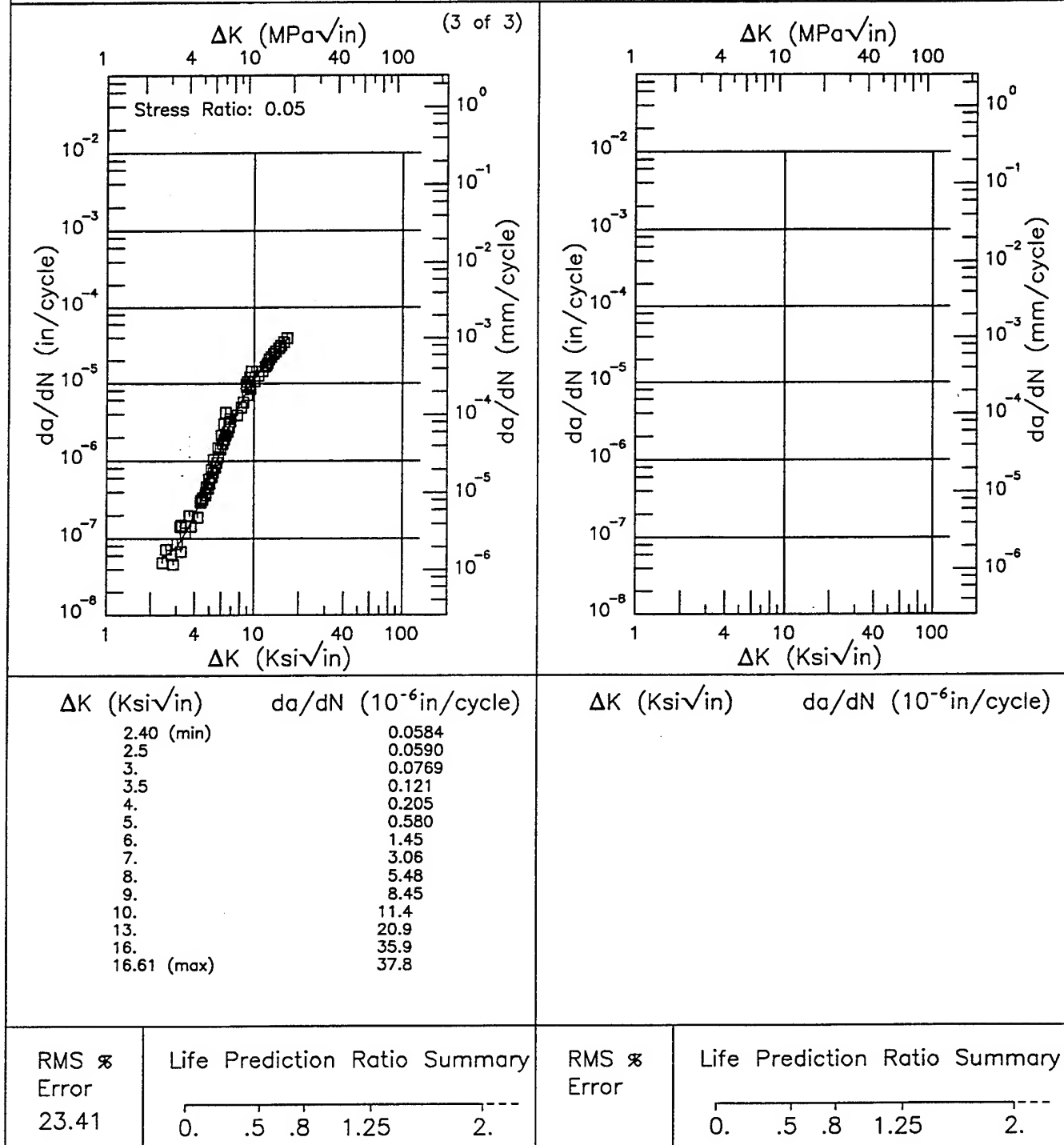
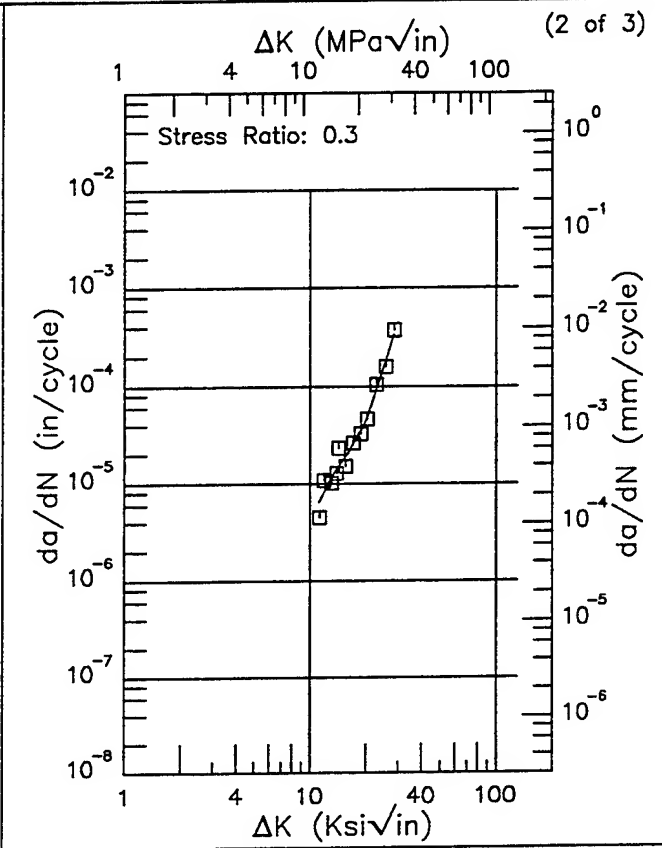
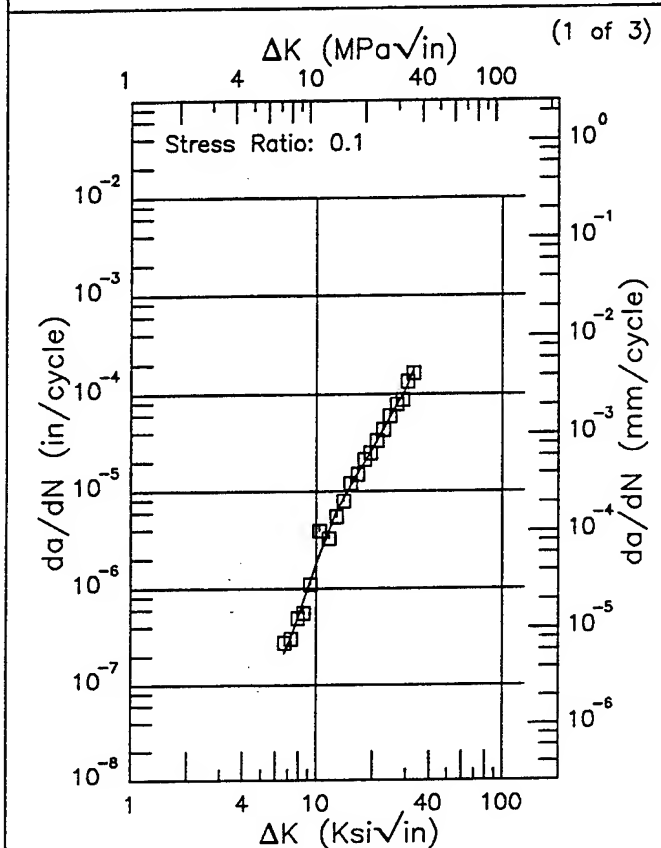


Figure 8.9.3.1.52 (Concluded)

R 7075

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: H.H.A.; RT

Yield Strength: 62.7 ksi
 Ult. Strength: 71.7 ksi
 Specimen Thk: 0.755 - 0.757 in.
 Specimen Width: 4.994 - 4.999 in.
 Ref: GD008



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.70 (min)	0.217
7.	0.266
8.	0.528
9.	1.01
10.	1.81
13.	6.59
16.	13.6
20.	27.3
25.	61.7
30.	113.
32.68 (max)	170.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
11.18 (min)	6.45
13.	11.7
16.	20.6
20.	44.5
25.	157.
28.35 (max)	336.

RMS %
 Error
 20.72

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 22.41

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.53

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: H.H.A.; RT

Yield Strength: 62.7 ksi
 Ult. Strength: 71.7 ksi
 Specimen Thk: 0.755 - 0.757 in.
 Specimen Width: 4.994 - 4.999 in.
 Ref: GD008

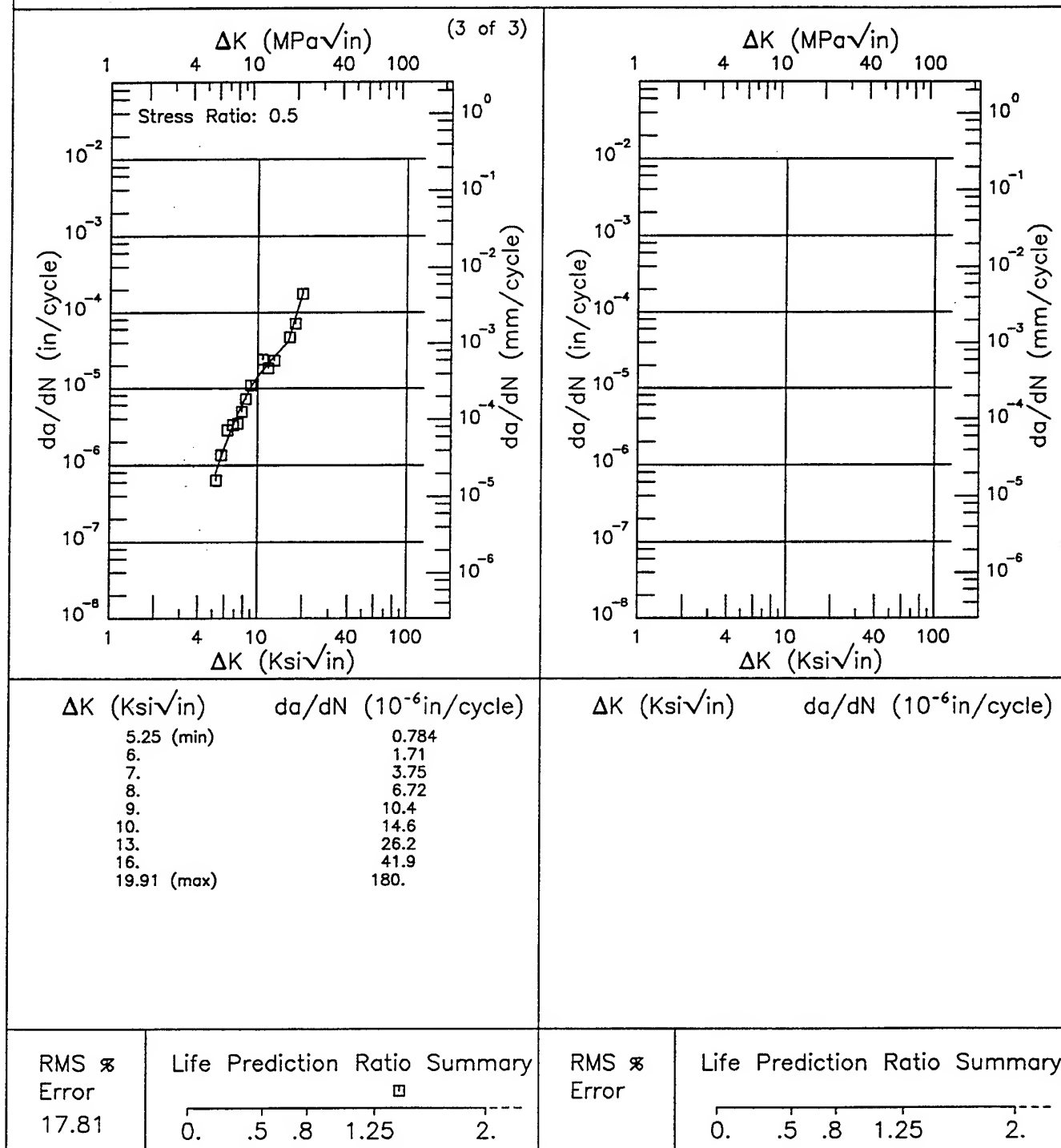


Figure 8.9.3.1.53 (Concluded)

R

7075

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: L-T
 Frequency: 4 Hz
 Environment: DRY AIR; RT

Yield Strength: 62.7 ksi
 Ult. Strength: 71.7 ksi
 Specimen Thk: 0.751 – 0.755 in.
 Specimen Width: 4.999 – 5.007 in.
 Ref: GD008

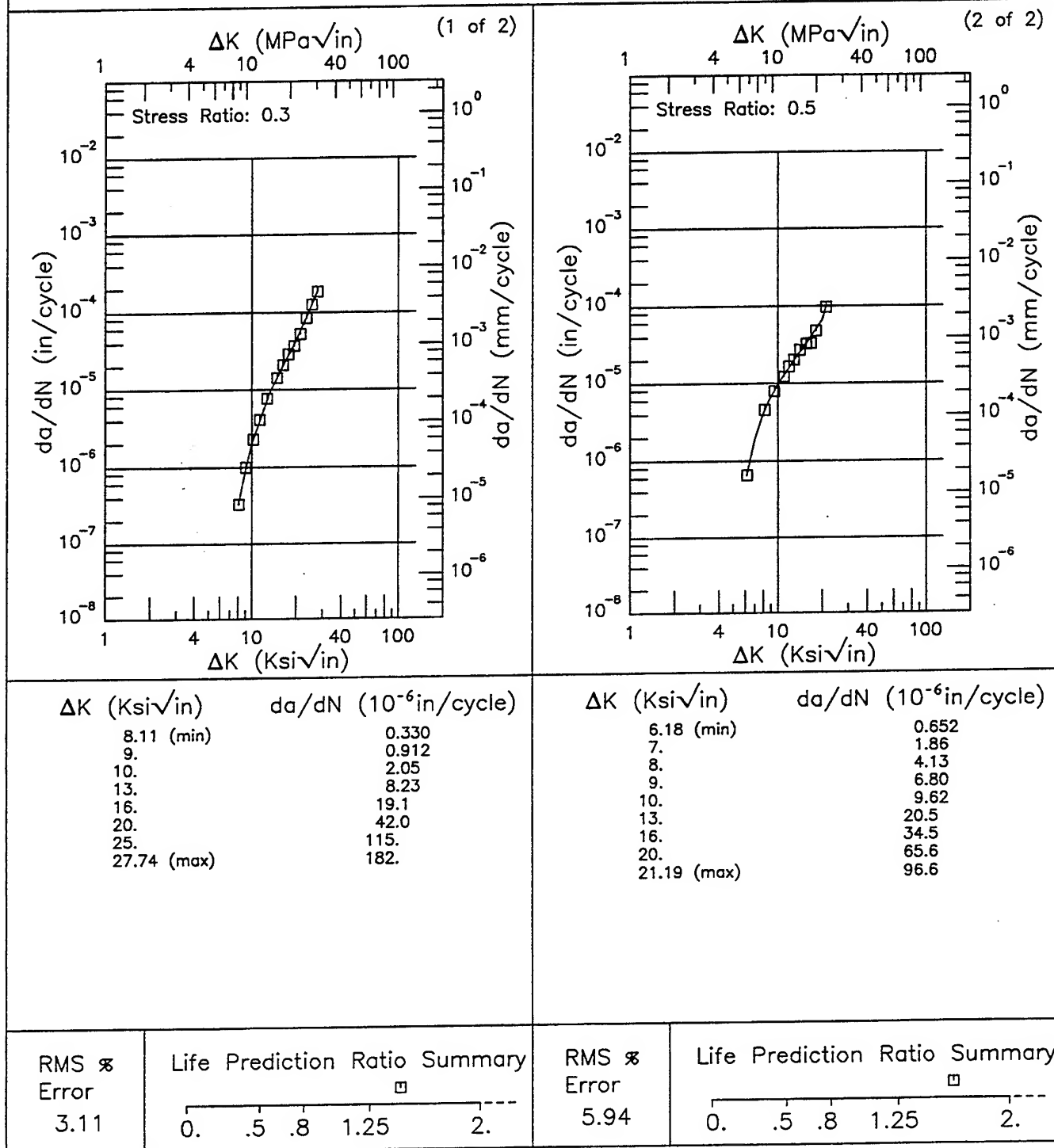


Figure 8.9.3.1.54

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 62.7 ksi
 Ult. Strength: 71.7 ksi
 Specimen Thk: 0.755 - 0.756 in.
 Specimen Width: 5.001 - 5.003 in.
 Ref: GD008

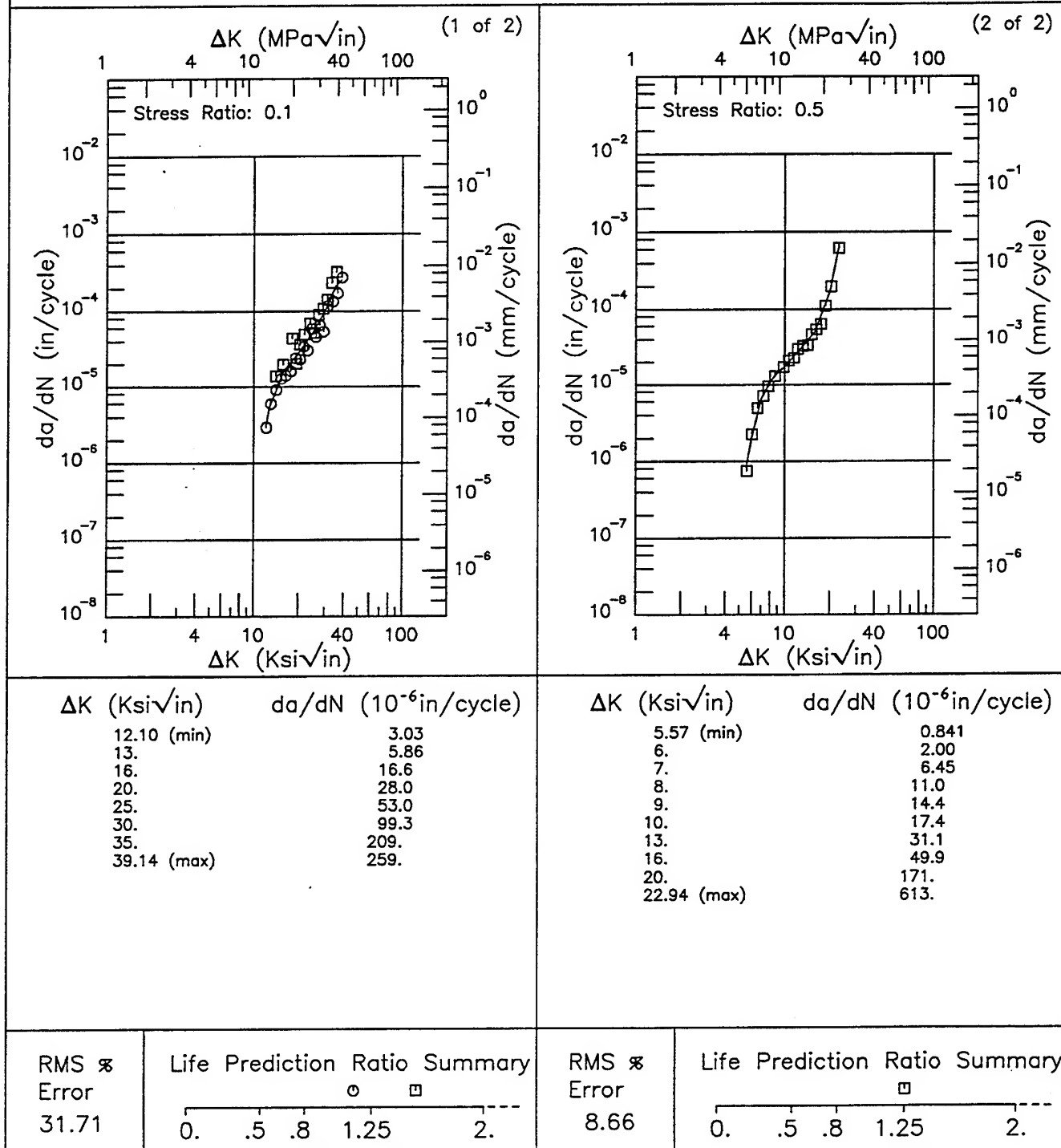
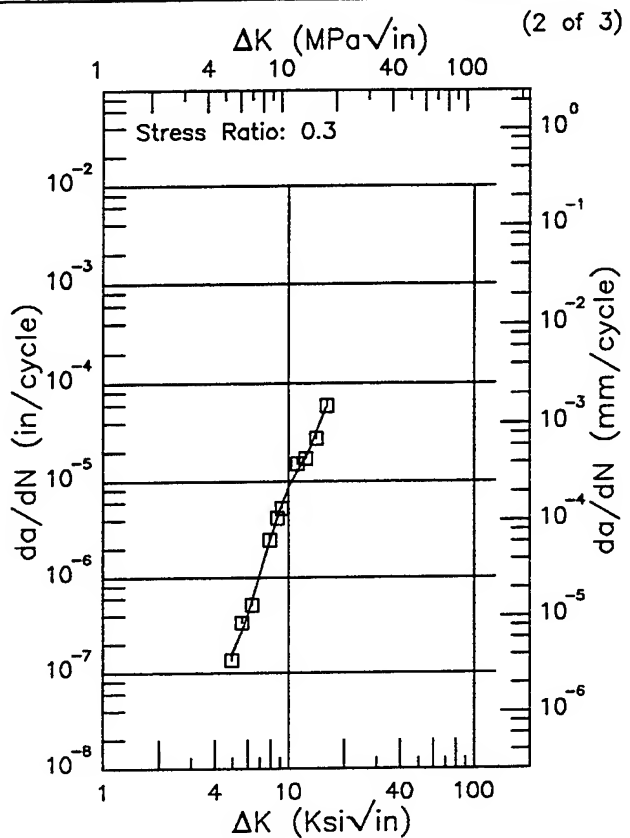
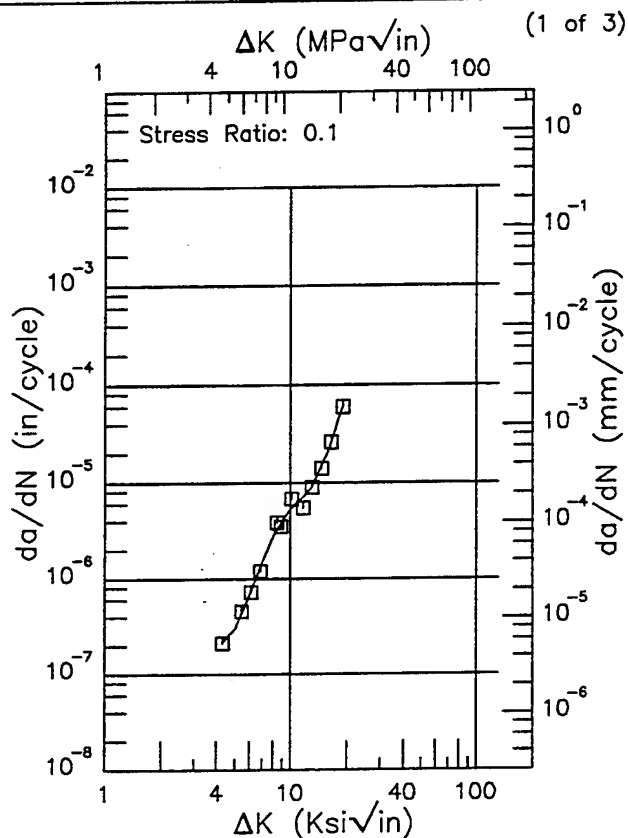


Figure 8.9.3.1.55

R 7075

Condition/Ht: T73
Form: 1.5 in. Forged Bar
Specimen Type: CT
Orientation: T-L
Frequency: 4 Hz
Environment: DRY AIR; RT

Yield Strength: 61.8 ksi
Ult. Strength: 70.7 ksi
Specimen Thk: 0.75 - 0.752 in.
Specimen Width: 4.988 - 5.001 in.
Ref: GD008



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.28 (min)	0.214
5.	0.300
6.	0.667
7.	1.47
8.	2.71
9.	4.06
10.	5.30
13.	8.81
16.	22.2
18.92 (max)	59.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.93 (min)	0.155
5.	0.164
6.	0.413
7.	1.08
8.	2.57
9.	5.19
10.	8.85
13.	21.2
16.	56.6
16.05 (max)	57.8

RMS %
Error
11.86

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
Error
10.60

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.56

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: T-L
 Frequency: 4 Hz
 Environment: DRY AIR; RT

Yield Strength: 61.8 ksi
 Ult. Strength: 70.7 ksi
 Specimen Thk: 0.75 - 0.752 in.
 Specimen Width: 4.988 - 5.001 in.
 Ref: GD008

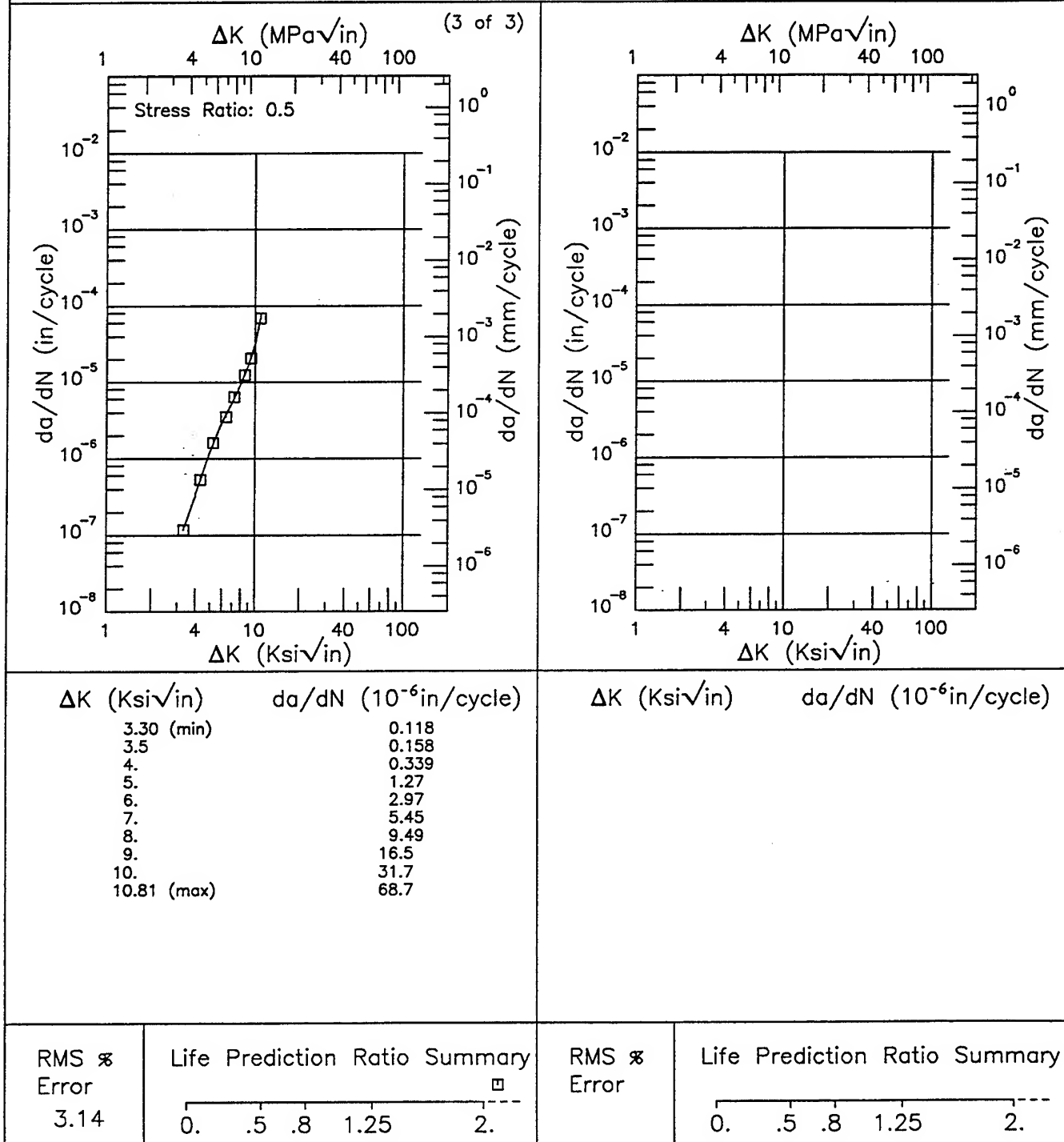


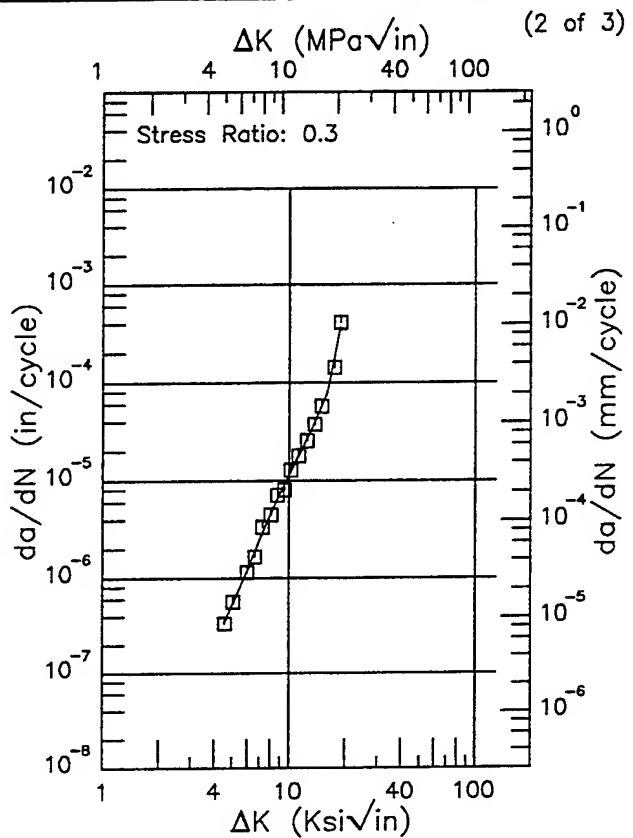
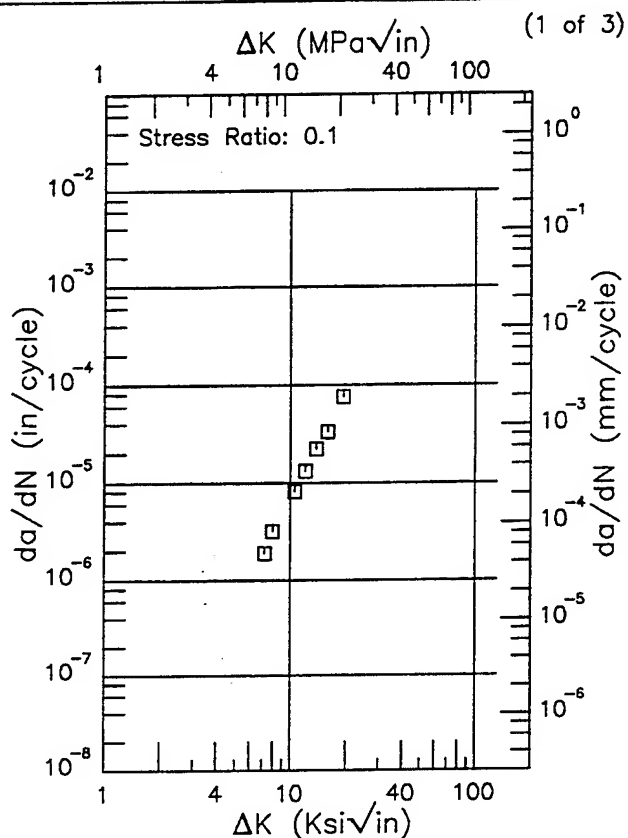
Figure 8.9.3.1.56 (Concluded)

R

7075

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: H.H.A.; RT

Yield Strength: 61.8 ksi
 Ult. Strength: 70.7 ksi
 Specimen Thk: 0.75 - 0.754 in.
 Specimen Width: 4.999 - 5.008 in.
 Ref: GD008



ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

4.55 (min)	0.341
5.	0.518
6.	1.20
7.	2.46
8.	4.51
9.	7.50
10.	11.5
13.	31.0
16.	76.5
18.80 (max)	368.

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

9.15

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.57

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: H.H.A.; RT

Yield Strength: 61.8 ksi
 Ult. Strength: 70.7 ksi
 Specimen Thk: 0.75 - 0.754 in.
 Specimen Width: 4.999 - 5.008 in.
 Ref: GD008

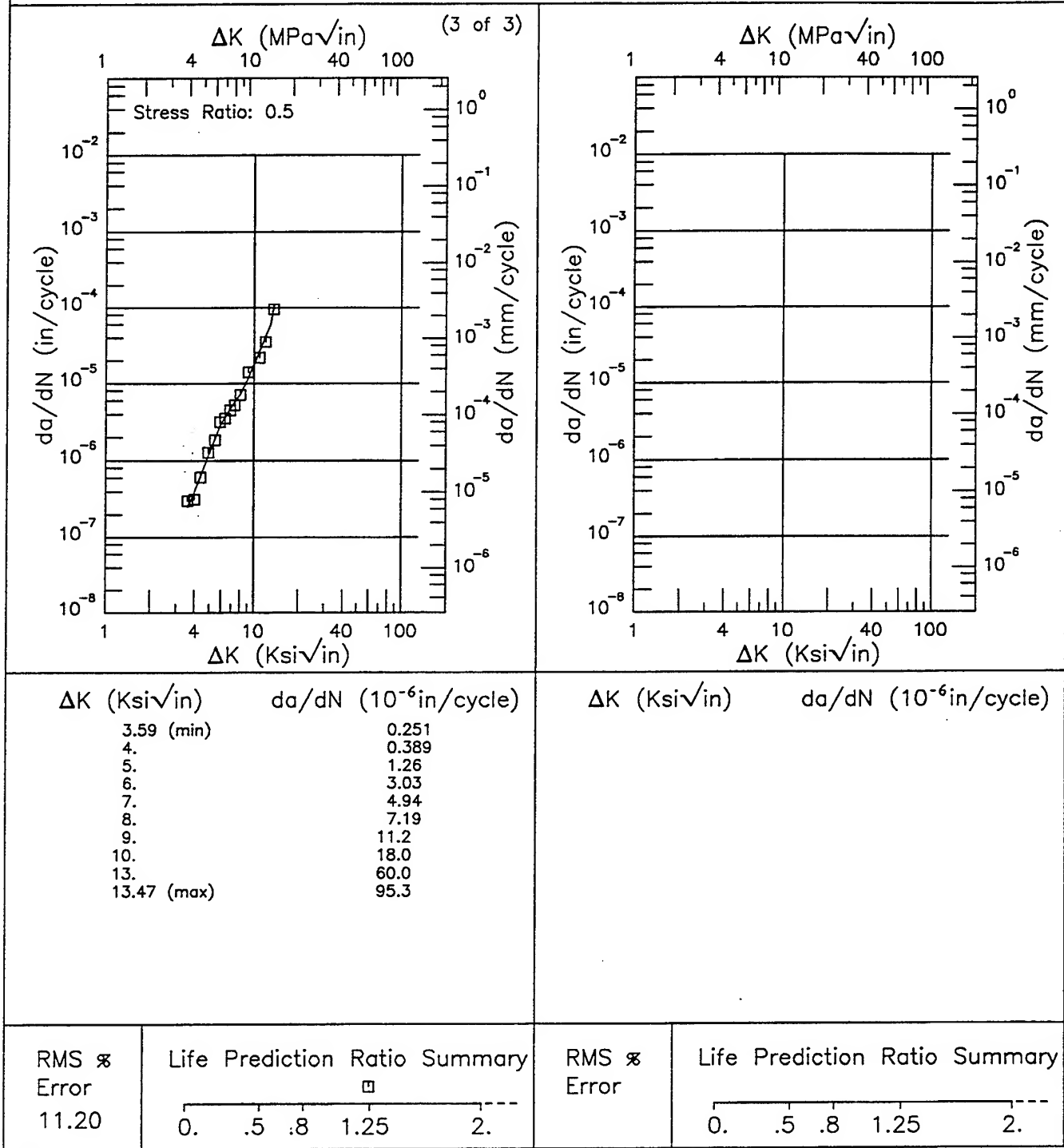
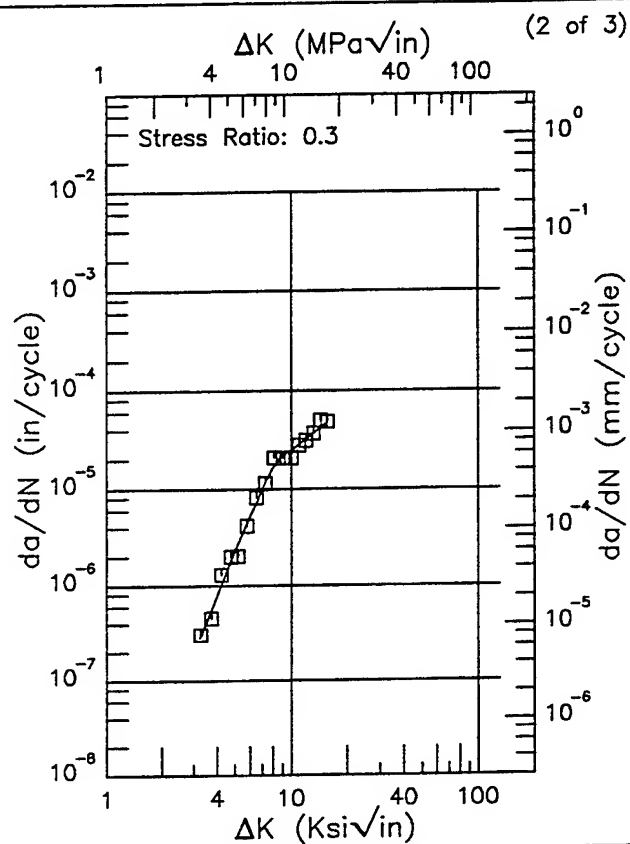
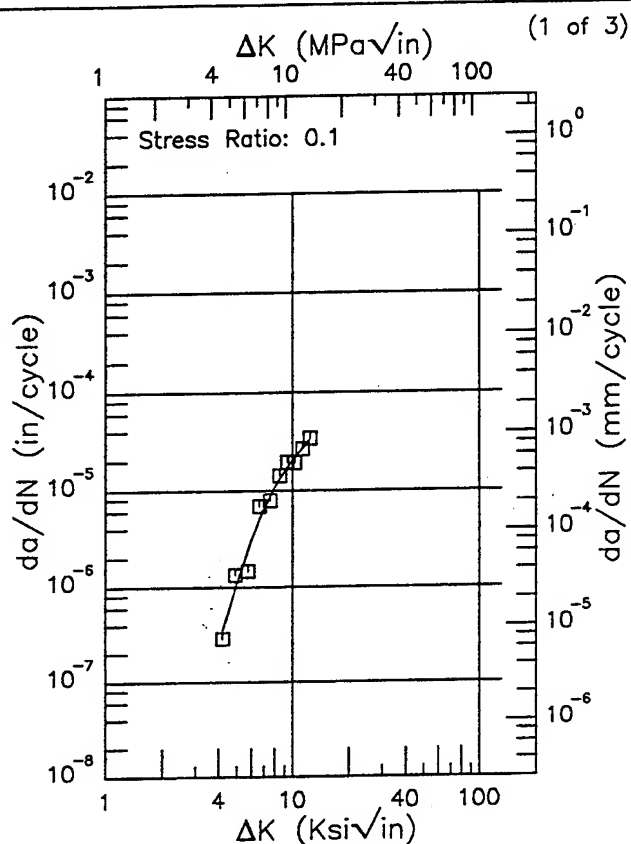


Figure 8.9.3.1.57 (Concluded)

R 7075
 Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 61.8 ksi
 Ult. Strength: 70.7 ksi
 Specimen Thk: 0.75 - 0.752 in.
 Specimen Width: 4.99 - 5.01 in.
 Ref: GD008



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.18 (min)	0.332
5.	1.07
6.	3.07
7.	6.49
8.	11.0
9.	15.7
10.	20.4
12.40 (max)	33.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.24 (min)	0.281
3.5	0.408
4.	0.779
5.	2.28
6.	5.28
7.	10.3
8.	16.6
9.	22.2
10.	24.8
13.	36.5
15.65 (max)	47.7

RMS %
 Error
 22.77

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 13.84

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.58

Condition/Ht: T73
 Form: 1.5 in. Forged Bar
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 61.8 ksi
 Ult. Strength: 70.7 ksi
 Specimen Thk: 0.75 - 0.752 in.
 Specimen Width: 4.99 - 5.01 in.
 Ref: GD008

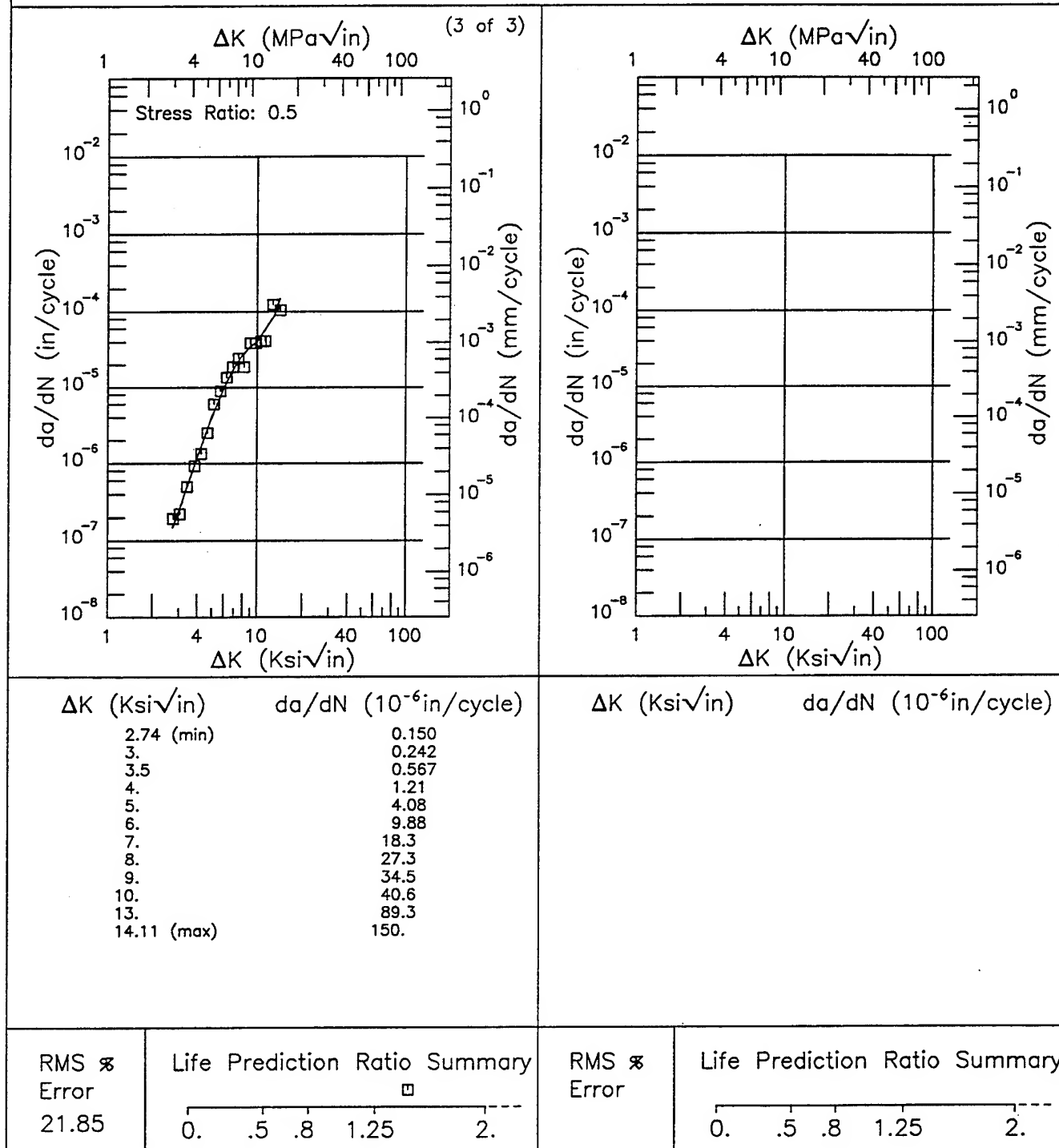
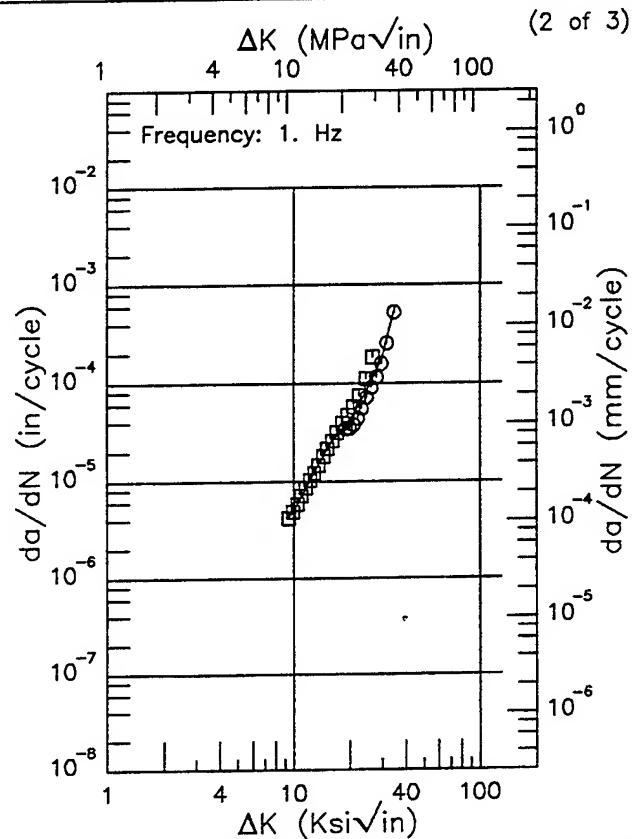
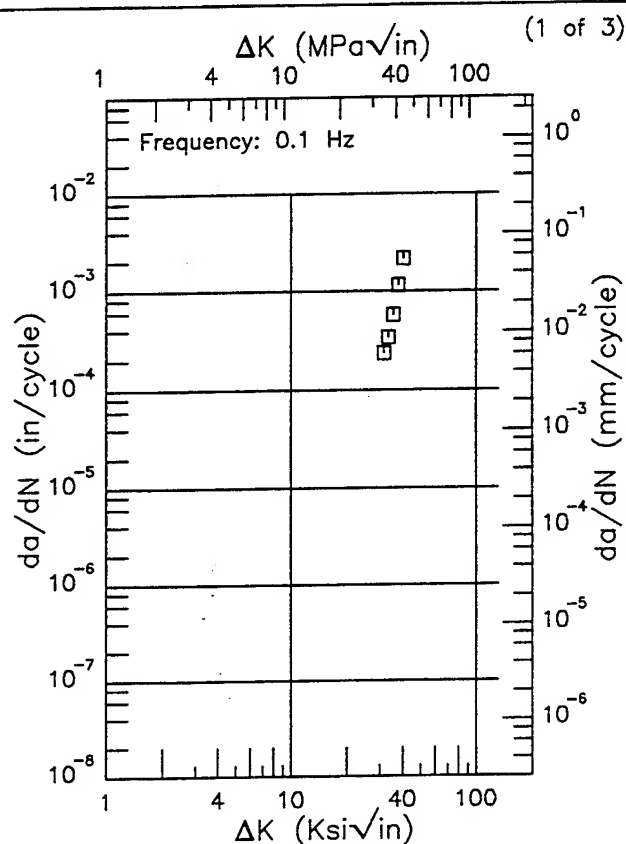


Figure 8.9.3.1.58 (Concluded)

F 7075

Condition/Ht: T7351
 Form: 1.25 - 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: LAB AIR; RT

Yield Strength: 53.2 ksi
 Ult. Strength: 65.1 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: 84363



ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

9.36 (min)	4.23
10.	5.04
13.	12.9
16.	25.5
20.	41.5
25.	86.9
30.	184.
34.34 (max)	531.

RMS $\%$
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS $\%$
Error

18.38

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.59

Condition/Ht: T7351
 Form: 1.25 - 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: LAB AIR; RT

Yield Strength: 53.2 ksi
 Ult. Strength: 65.1 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: 84363

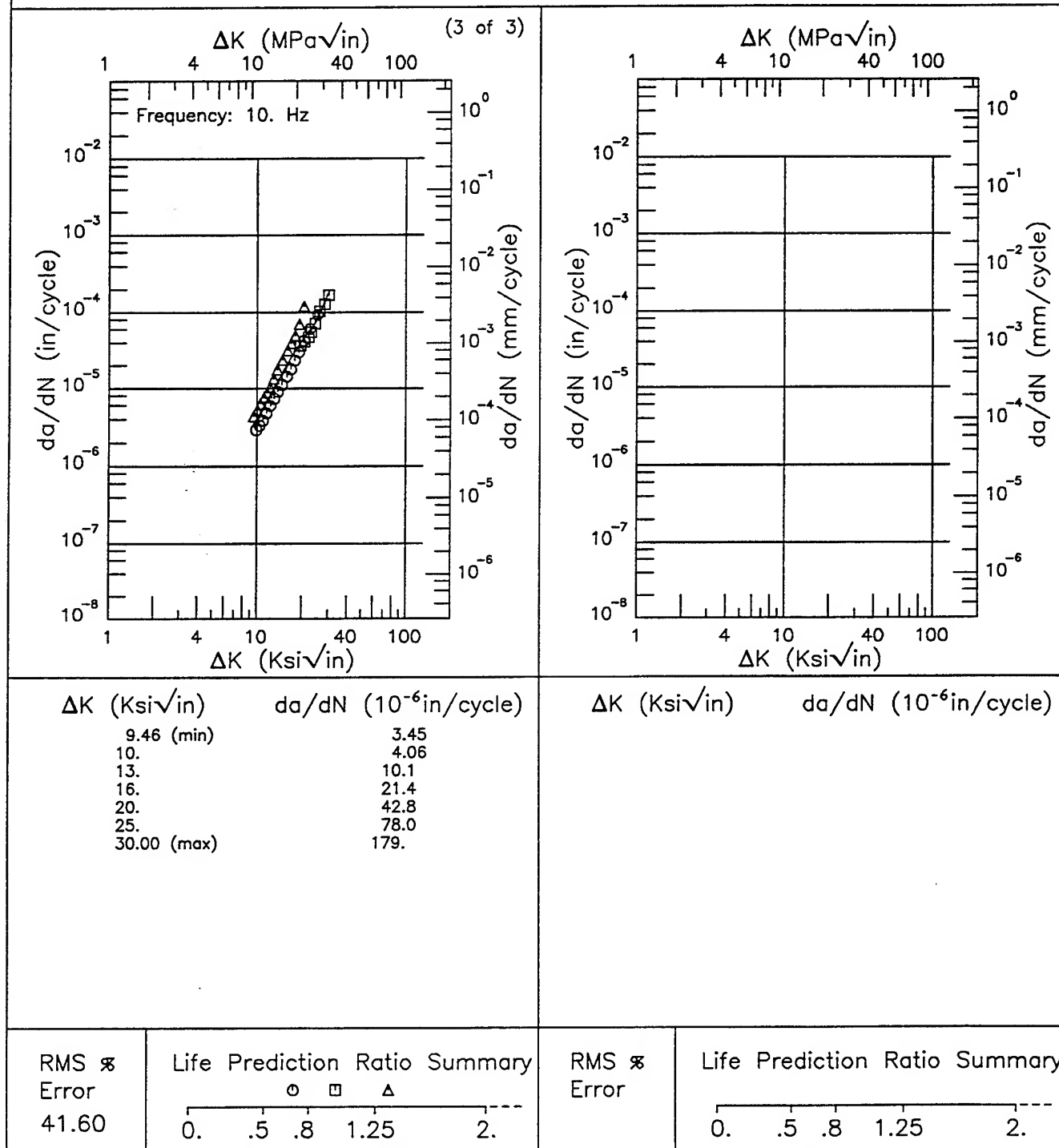
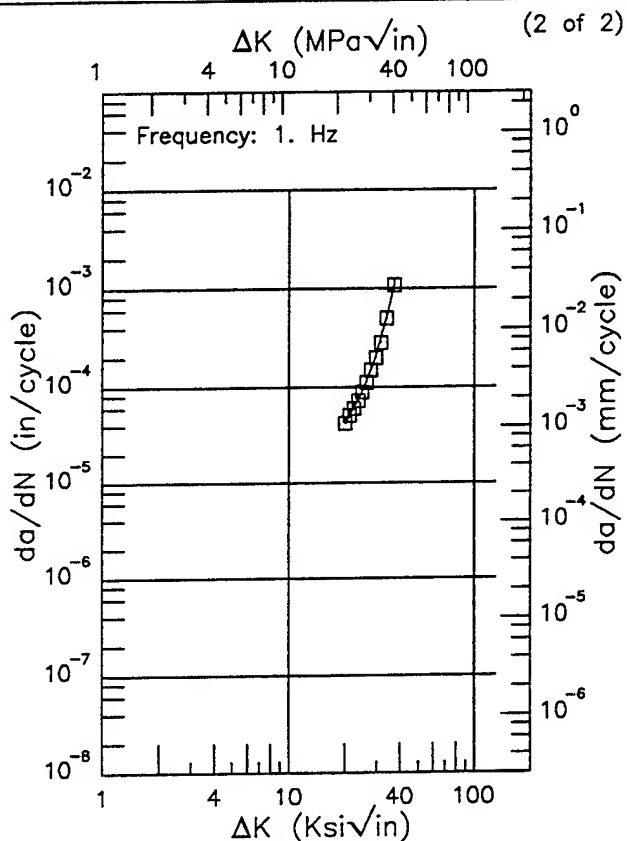
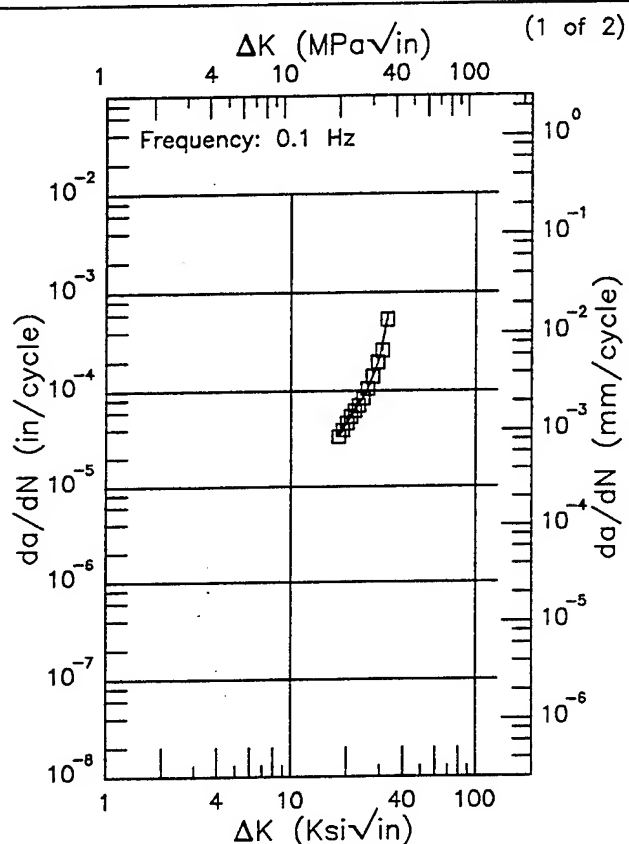


Figure 8.9.3.1.59 (Concluded)

F 7075

Condition/Ht: T7351
 Form: 1.25 - 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: DIST WATER; RT

Yield Strength: 53.2 ksi
 Ult. Strength: 65.1 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: 84363



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
18.10 (min)	33.4
20.	46.3
25.	91.2
30.	221.
32.70 (max)	529.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
20.15 (min)	42.5
25.	90.0
30.	220.
35.	652.
37.06 (max)	1072.

RMS %
 Error
 3.03

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 2.44

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.60

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 0.1 Hz
 Environment: 3.5% NaCl; RT

Yield Strength: 53.2 ksi
 Ult. Strength: 65.1 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: 84363

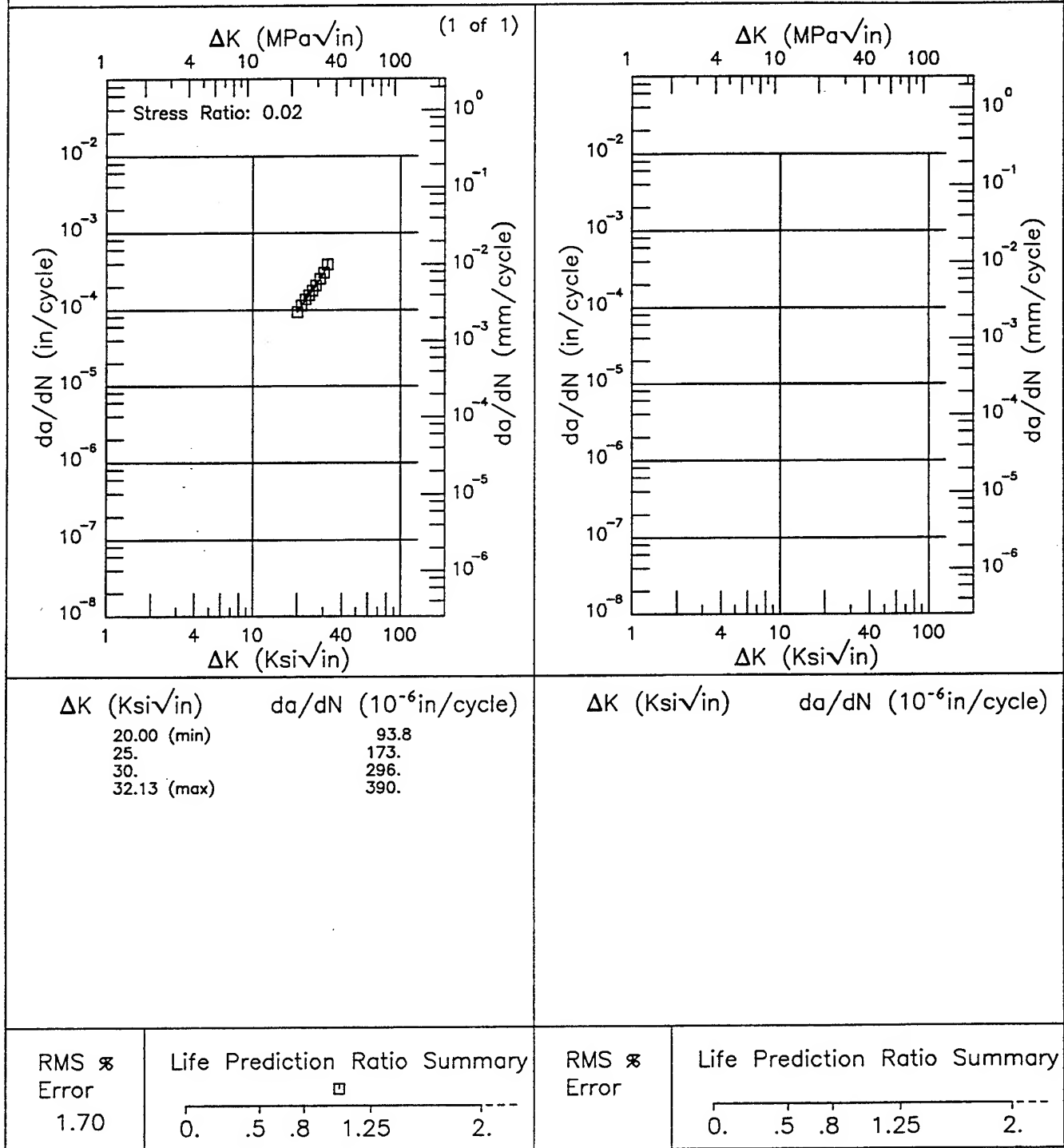


Figure 8.9.3.1.61

7075

Condition/Ht: T7351
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Environment: L.H.A.; RT

Yield Strength: 58 - 63 ksi
 Ult. Strength: 70 - 74 ksi
 Specimen Thk: 0.994 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579;85837

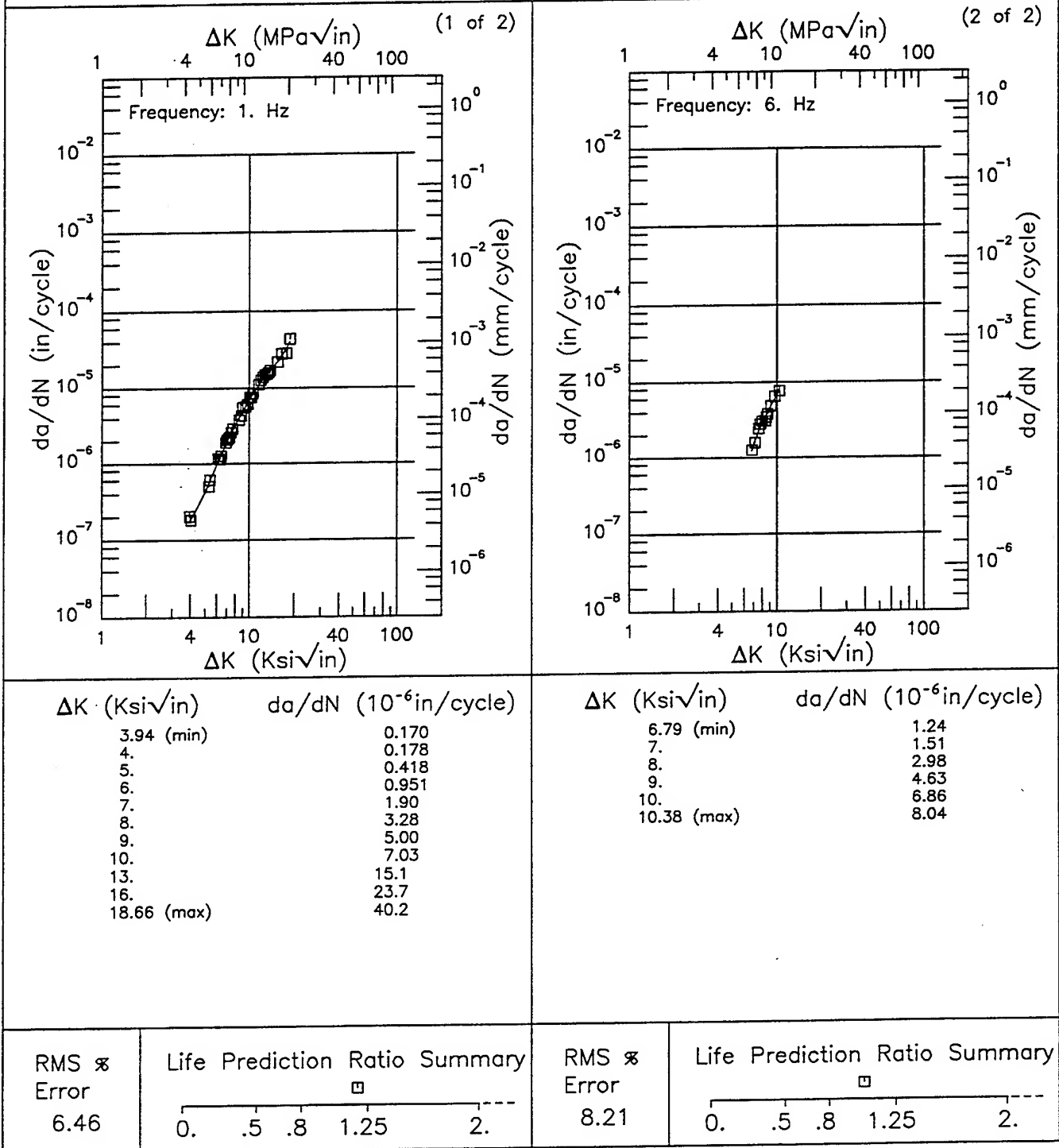


Figure 8.9.3.1.62

Condition/Ht: T7351
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 6 Hz

Yield Strength: 64.7 - 65 ksi
 Ult. Strength: 75.5 - 76 ksi
 Specimen Thk: 0.816 - 0.82 in.
 Specimen Width: 6 in.
 Ref: 88579;85837

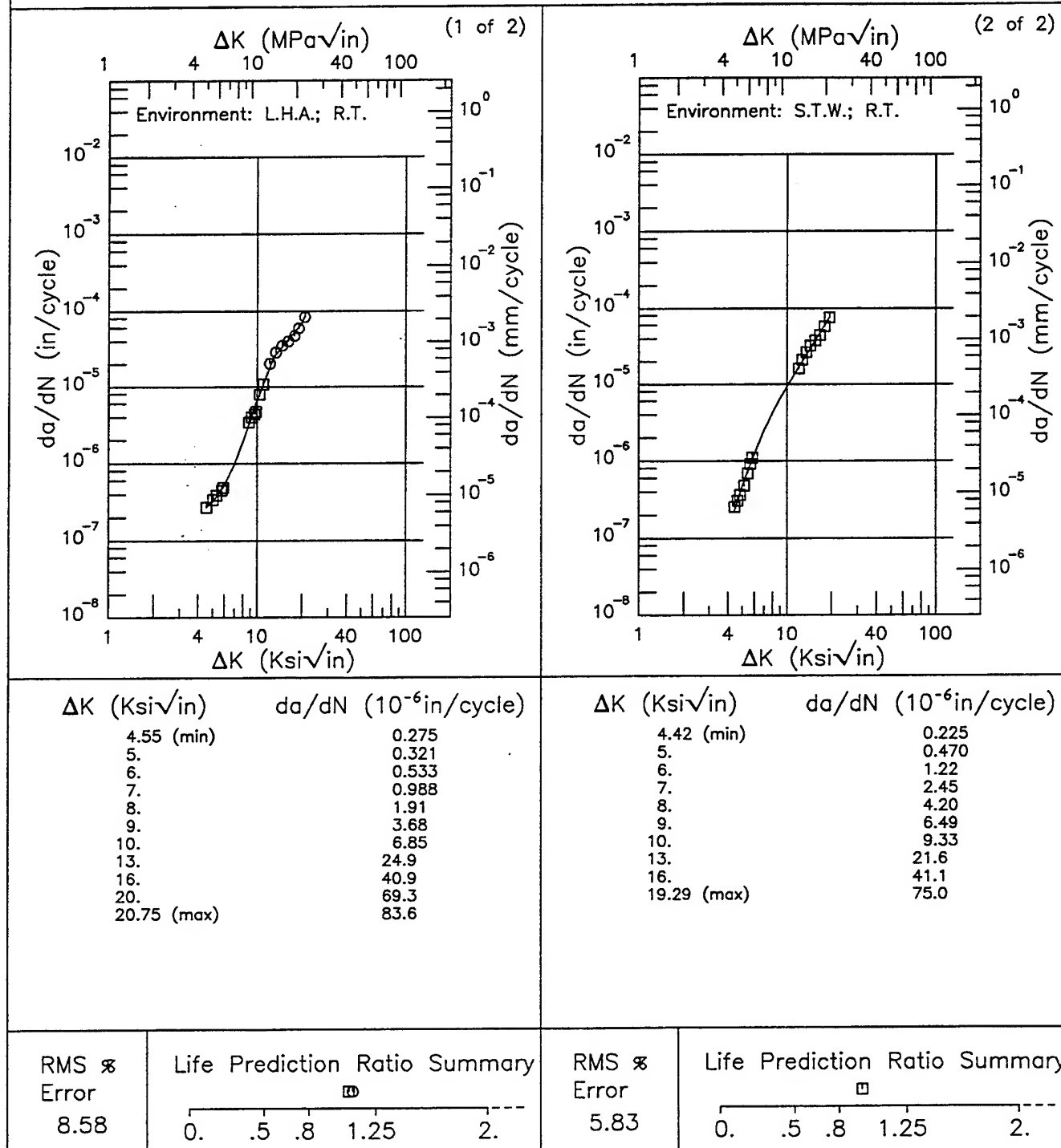


Figure 8.9.3.1.63

R

7075

Condition/Ht: T7351
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 58 ksi
 Ult. Strength: 70 ksi
 Specimen Thk: 0.99 in.
 Specimen Width: 7.4 in.
 Ref: 88579

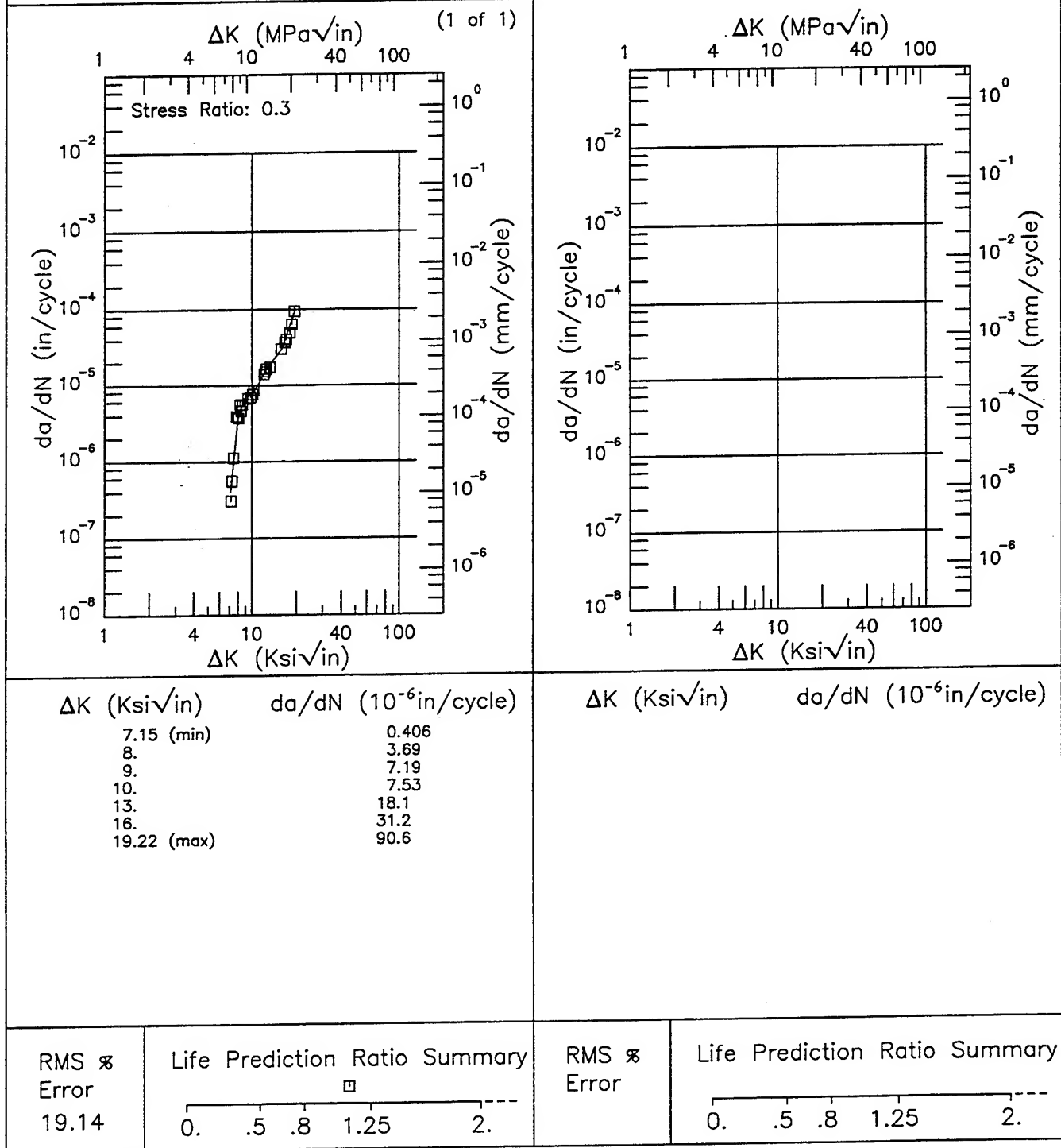


Figure 8.9.3.1.64

Condition/Ht: T7351
 Form: 1.38 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.33
 Environment: H.H.A.; RT

Yield Strength: 64.8 ksi
 Ult. Strength: 74.7 ksi
 Specimen Thk: 0.247 in.
 Specimen Width: 2.5 in.
 Ref: AL005

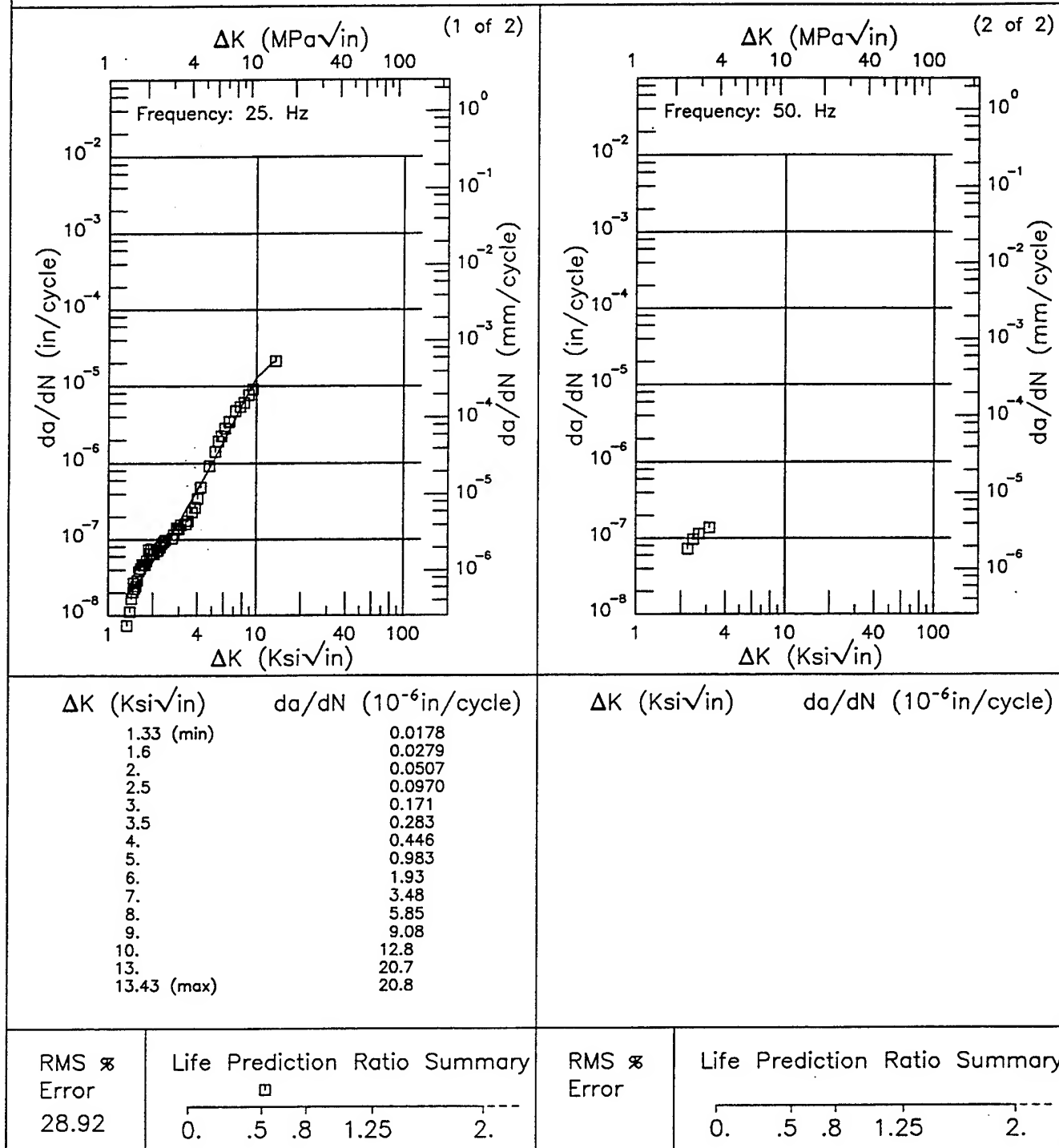
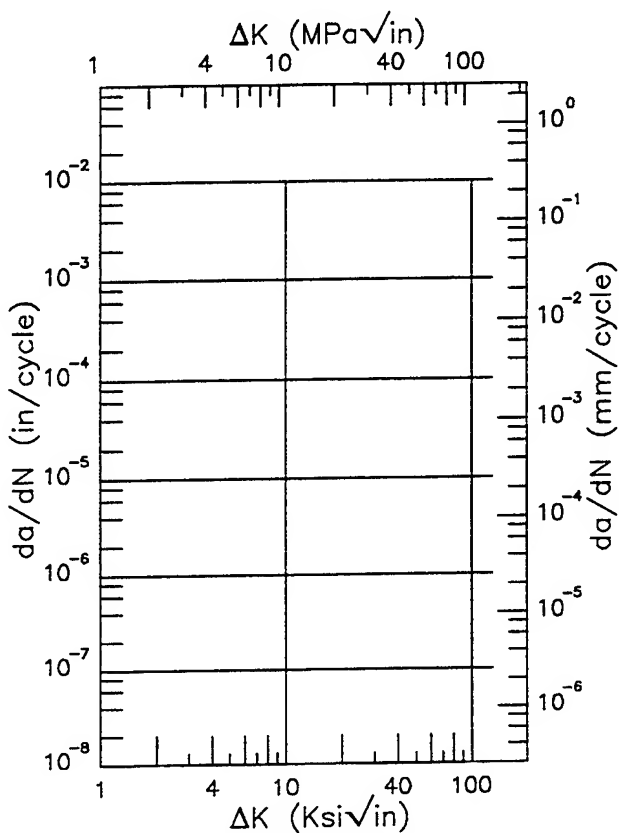
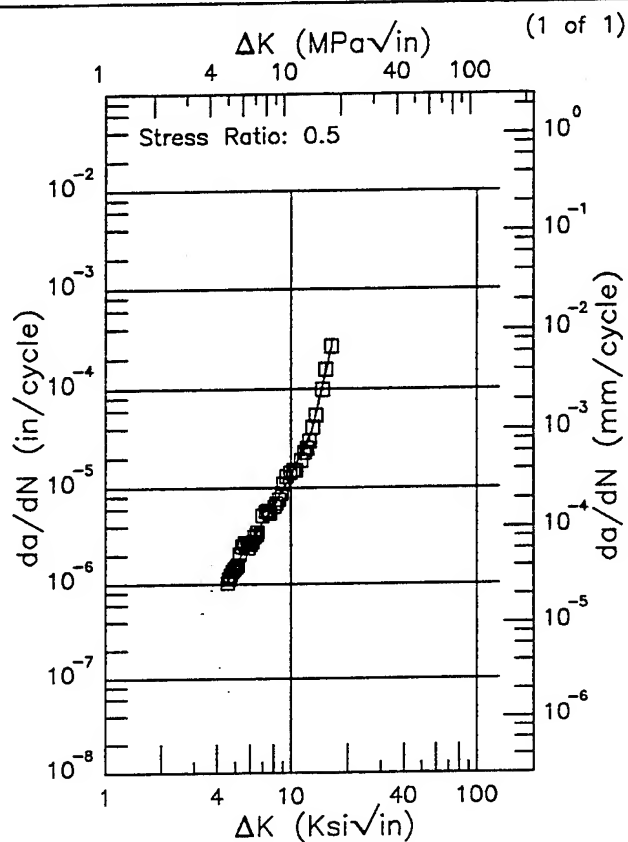


Figure 8.9.3.1.65

7075

Condition/Ht: T7351
Form: 2 in. Plate
Specimen Type: CT
Orientation: L-T
Frequency: 6 Hz
Environment: L.H.A.; RT

Yield Strength: 65 ksi
Ult. Strength: 76 ksi
Specimen Thk: 0.81 in.
Specimen Width: 6 in.
Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6}in/cycle)
4.52 (min)	1.01
5.	1.56
6.	2.86
7.	4.44
8.	6.64
9.	9.76
10.	13.7
13.	38.4
16.	230.
16.33 (max)	264.

$$\Delta K \text{ (Ksi}\sqrt{\text{in}}) \quad da/dN \text{ (10}^{-6}\text{in/cycle)}$$

RMS %
Error
9.60

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.66

Condition/Ht: T7351
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.82 in.
 Specimen Width: 6 in.
 Ref: 88579

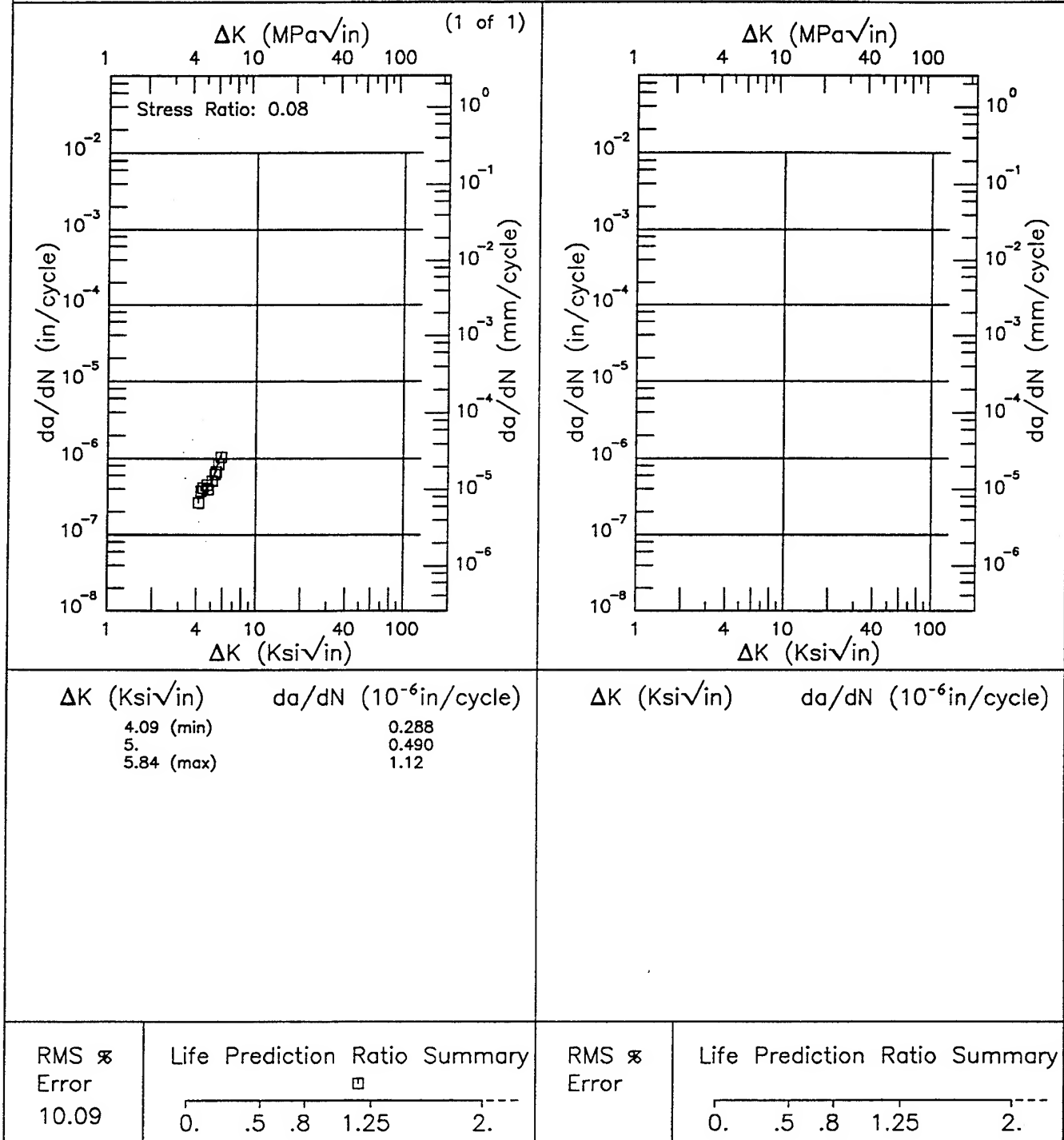


Figure 8.9.3.1.67

EF 7075

Condition/Ht: T7351
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.08

Yield Strength: 63 - 64 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.995 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 85837

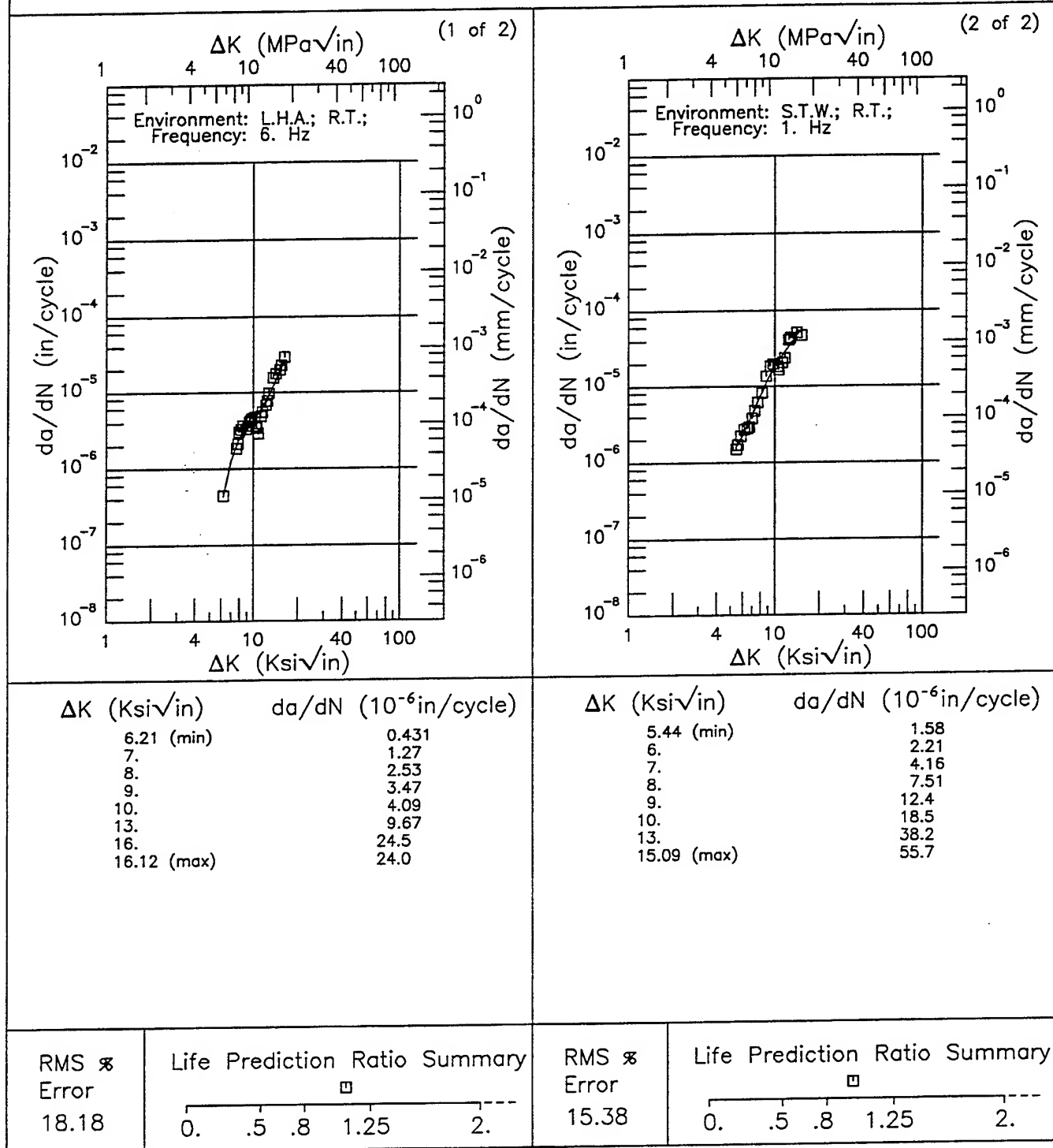


Figure 8.9.3.1.68

Condition/Ht: T7351

Form: 1 in. Plate

Specimen Type: CT

Orientation: S-T

Stress Ratio: 0.5

Environment: NITROGEN GAS; RT

Yield Strength: 70 ksi

Ult. Strength:

Specimen Thk: 0.51 - 0.512 in.

Specimen Width: 1.023 - 1.026 in.

Ref: MR001

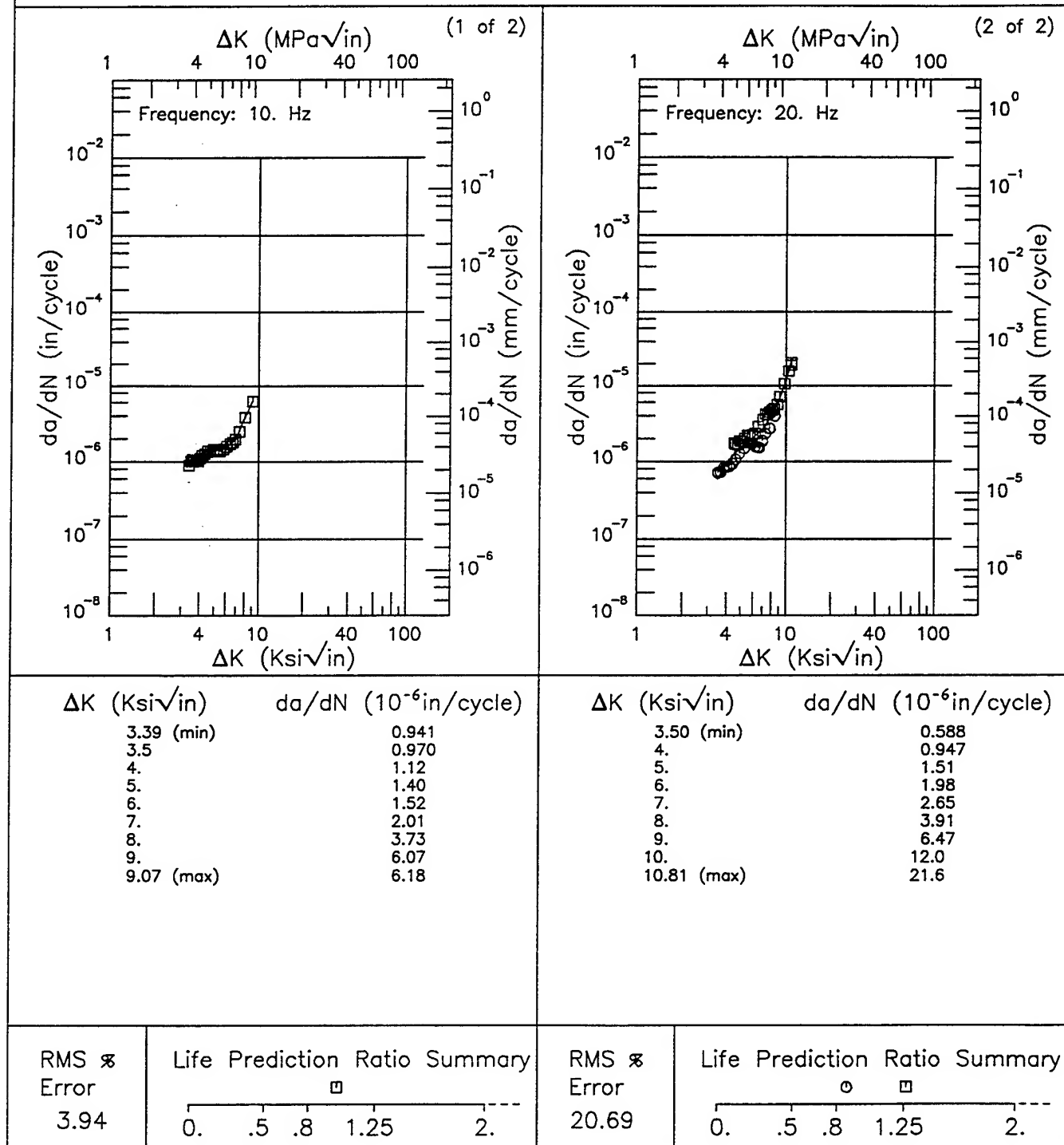
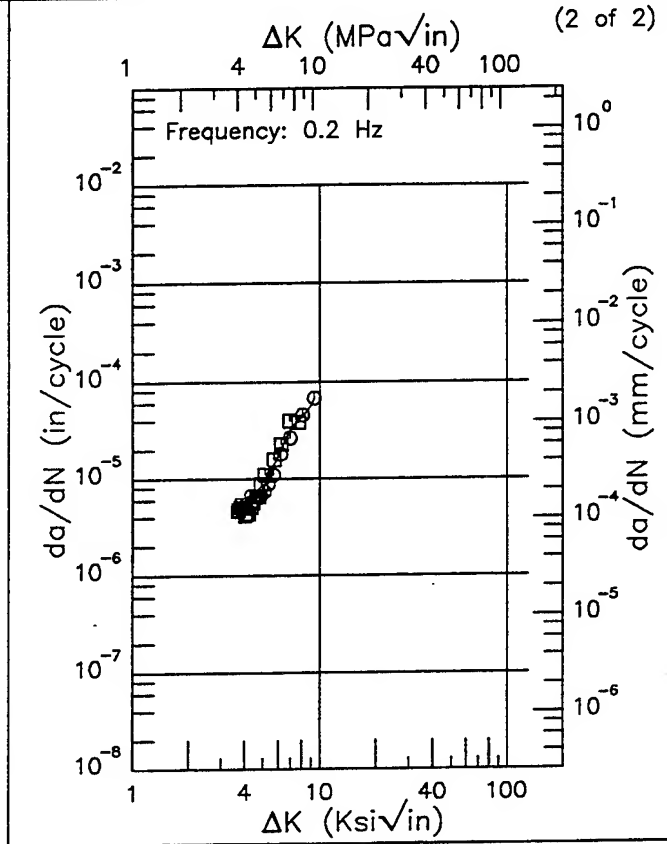
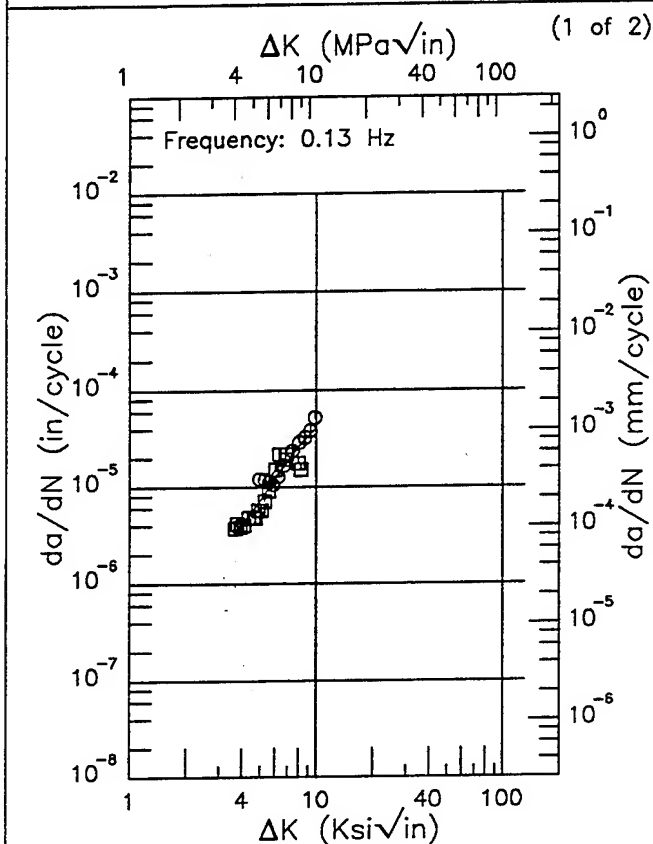


Figure 8.9.3.1.69

F | 7075 |

Condition/Ht: T7351
 Form: 1 in. Plate
 Specimen Type: CT
 Orientation: S-T
 Stress Ratio: 0.5
 Environment: 3.5% NACL; RT

Yield Strength: 60 ksi
 Ult. Strength:
 Specimen Thk: 0.509 - 0.511 in.
 Specimen Width: 1 - 1.027 in.
 Ref: MR001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.66 (min)	3.28
4.	4.01
5.	7.22
6.	12.1
7.	18.6
8.	26.2
9.	33.9
9.75 (max)	39.4

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.68 (min)	4.81
4.	4.77
5.	7.85
6.	17.2
7.	32.9
8.	43.3
9.	56.8
9.32 (max)	67.6

RMS %
 Error
 25.36

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 12.72

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.70

Condition/Ht: T7351

Form: 1 in. Plate

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 10 Hz

Environment: LAB AIR; RT

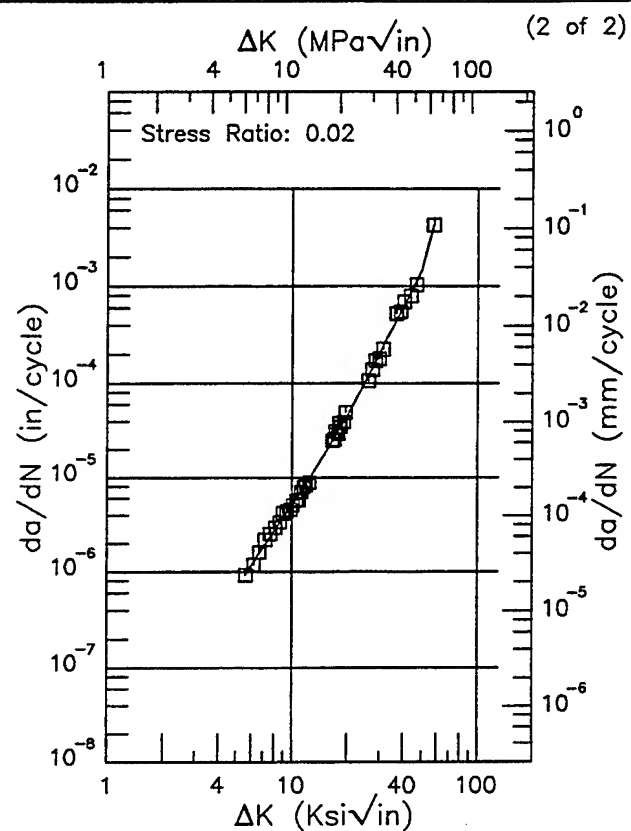
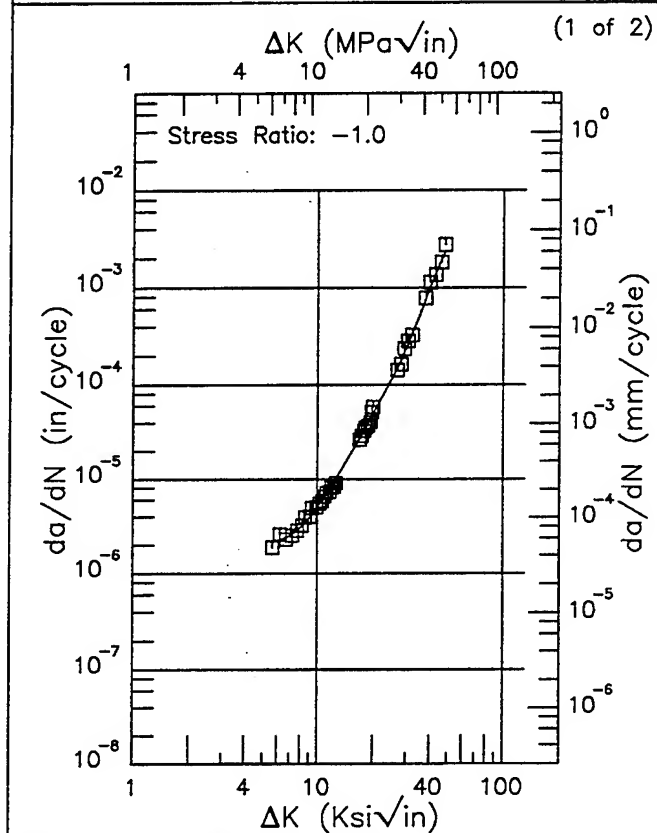
Yield Strength: 67.3 ksi

Ult. Strength: 75.5 ksi

Specimen Thk: 0.25 in.

Specimen Width: 4 in.

Ref: MA006



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.66 (min)	2.18
6.	2.20
7.	2.47
8.	3.02
9.	3.85
10.	4.99
13.	11.0
16.	22.5
20.	50.4
25.	115.
30.	242.
35.	507.
40.	1025.
47.96 (max)	2319.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.60 (min)	0.931
6.	1.15
7.	1.81
8.	2.66
9.	3.75
10.	5.10
13.	11.1
16.	21.4
20.	45.2
25.	102.
30.	207.
35.	372.
40.	600.
50.	1451.
57.77 (max)	4180.

RMS %
Error

8.07

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
Error

8.29

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.71

R

7075

Condition/Ht: T7351

Form: Plate

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 12 - 30 Hz

Environment: H.H.A.; RT

Yield Strength: 64.5 ksi

Ult. Strength:

Specimen Thk: 0.475 in.

Specimen Width: 6 in.

Ref: BL002

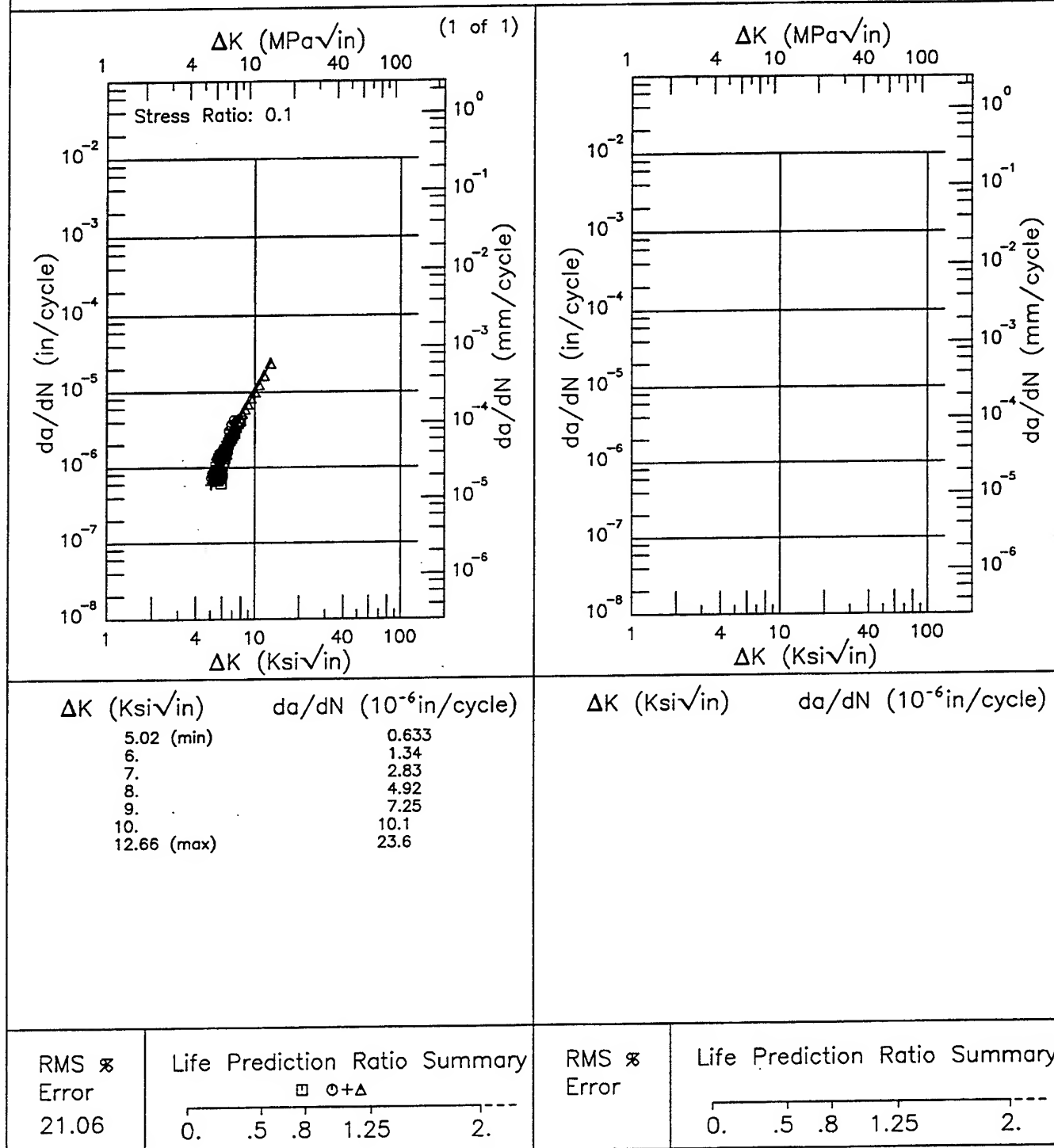


Figure 8.9.3.1.72

Condition/Ht: T7351

Form: Plate

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 12 - 30 Hz

Environment: H.H.A.; RT

Yield Strength: 60.5 ksi

Ult. Strength:

Specimen Thk: 0.5 in.

Specimen Width: 6 in.

Ref: BL002

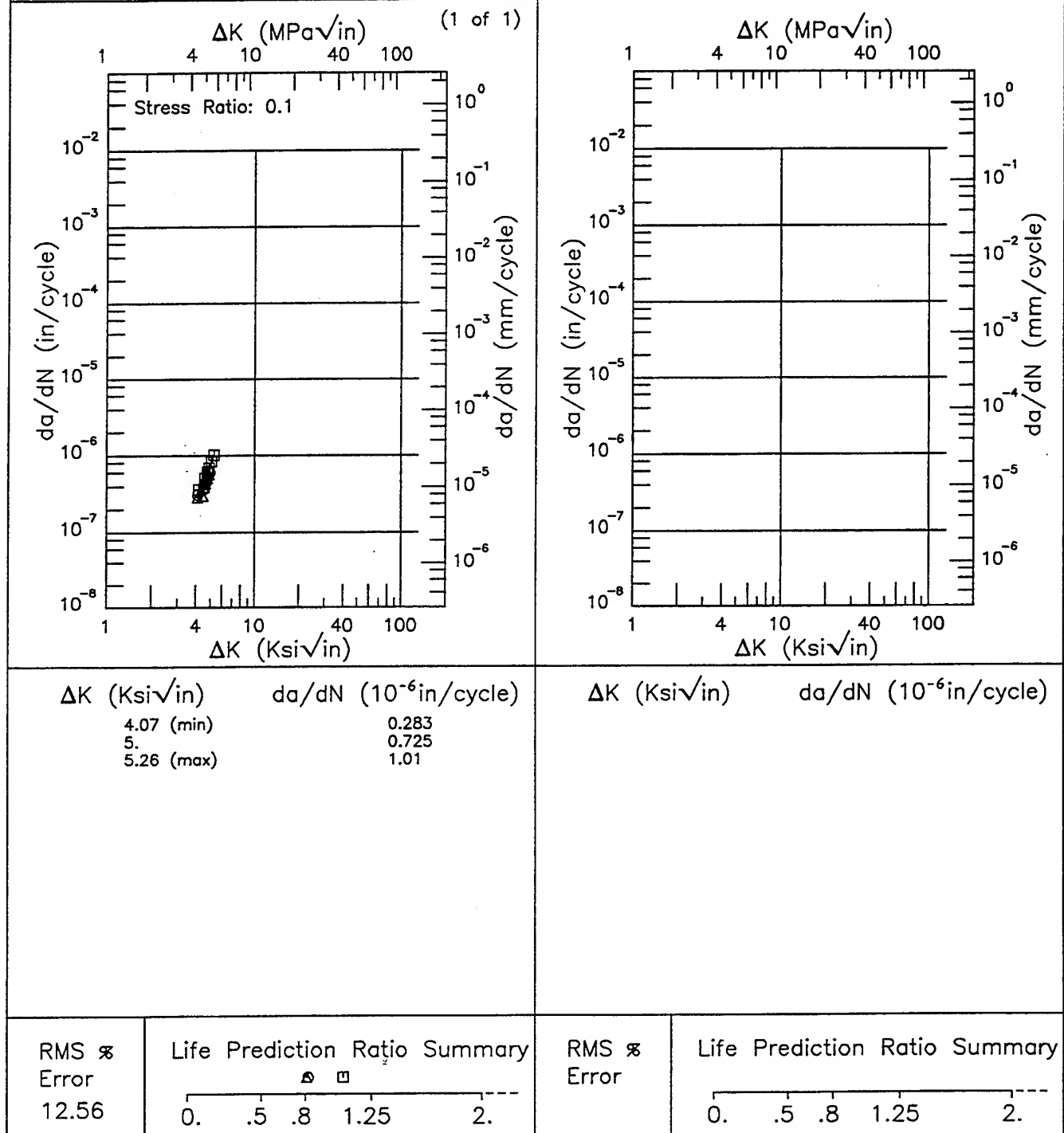


Figure 8.9.3.1.73

R

7075

Condition/Ht: T7351

Form: Plate

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 19 - 30 Hz

Environment: H.H.A.; RT

Yield Strength: 64.5 ksi

Ult. Strength:

Specimen Thk: 0.475 in.

Specimen Width: 4 in.

Ref: BL002

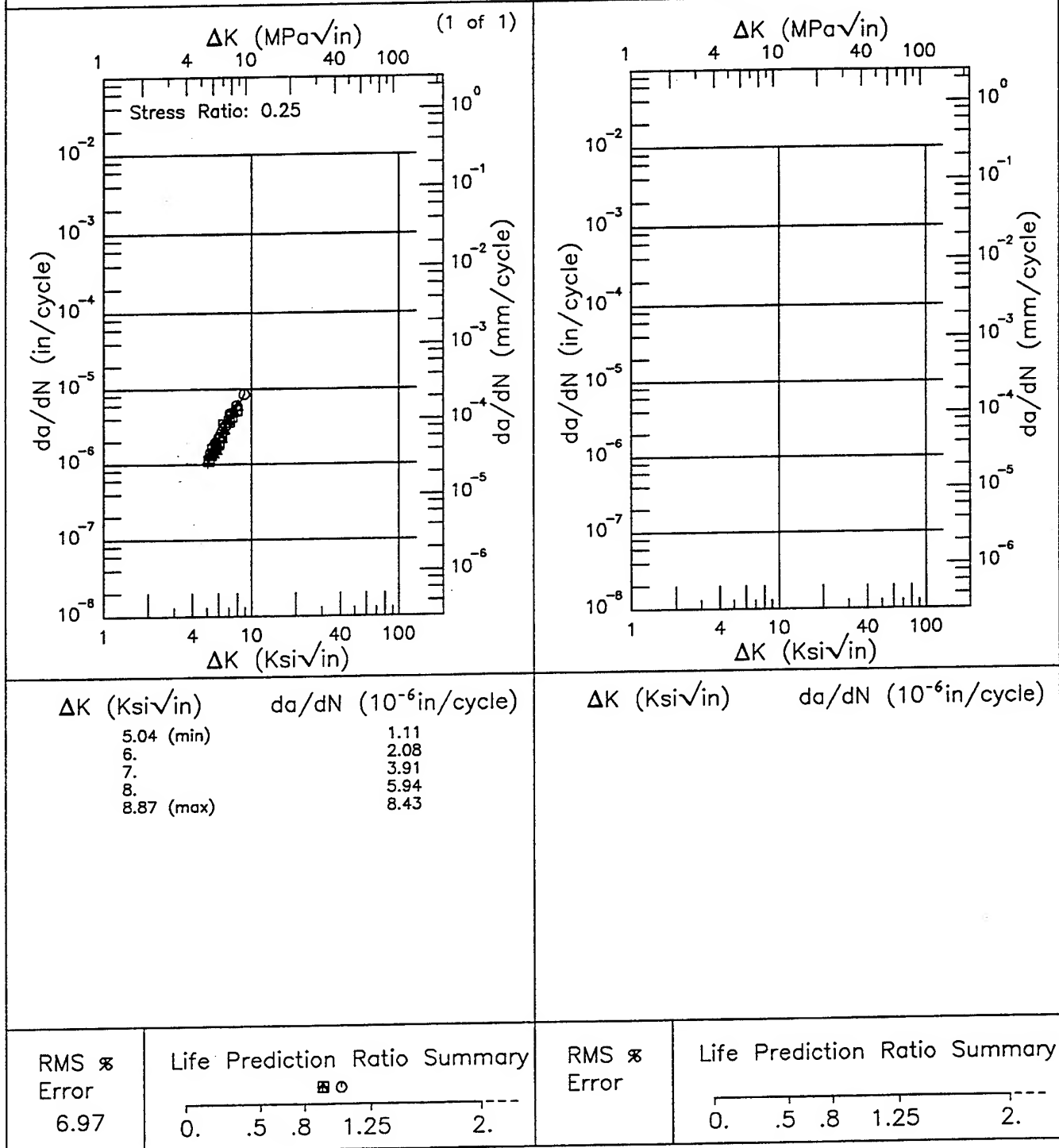


Figure 8.9.3.1.74

Condition/Ht: T7351

Form: Plate

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 19 - 30 Hz

Environment: H.H.A.; RT

Yield Strength: 60.5 ksi

Ult. Strength:

Specimen Thk: 0.5 in.

Specimen Width: 6 in.

Ref: BL002

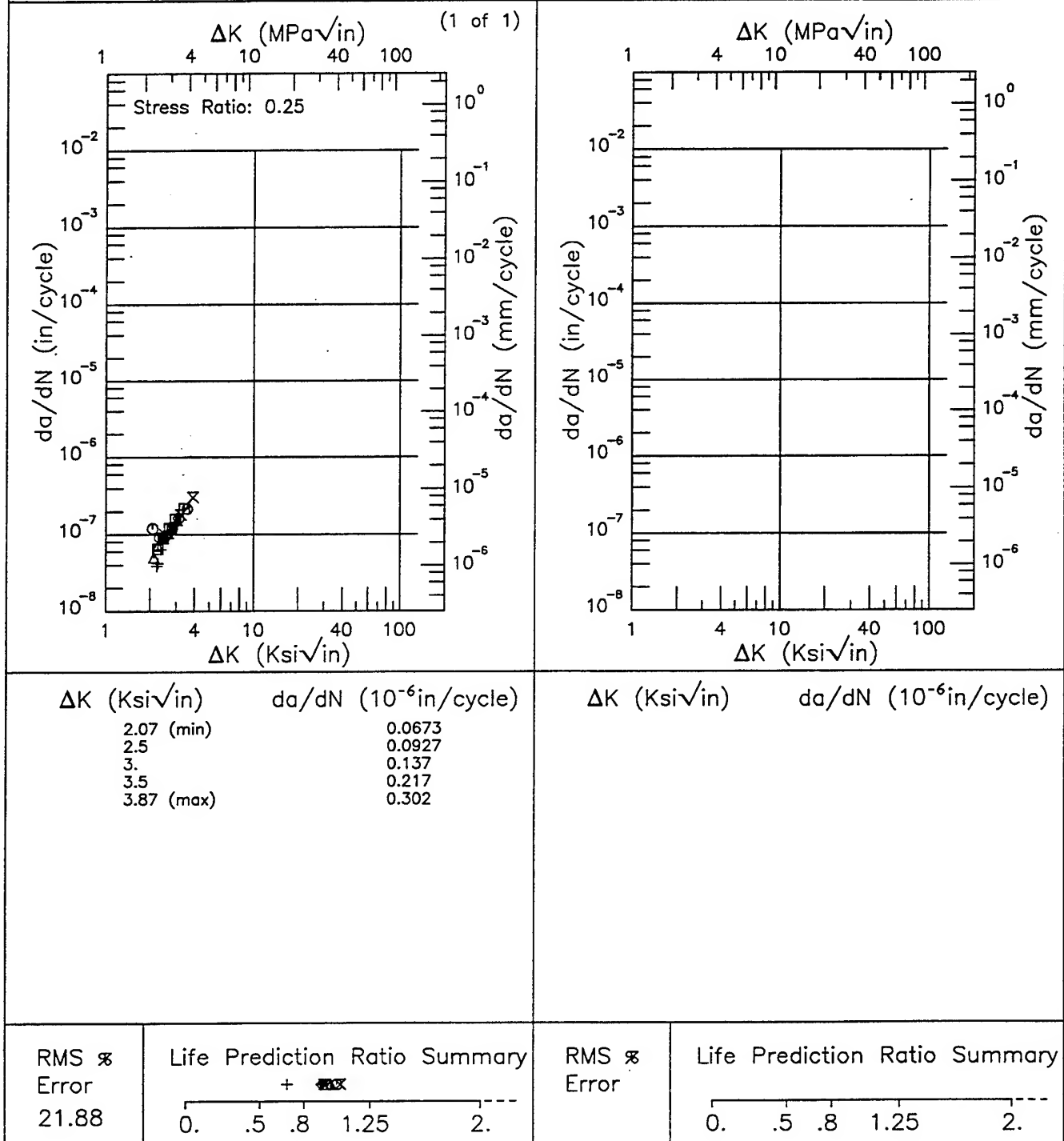
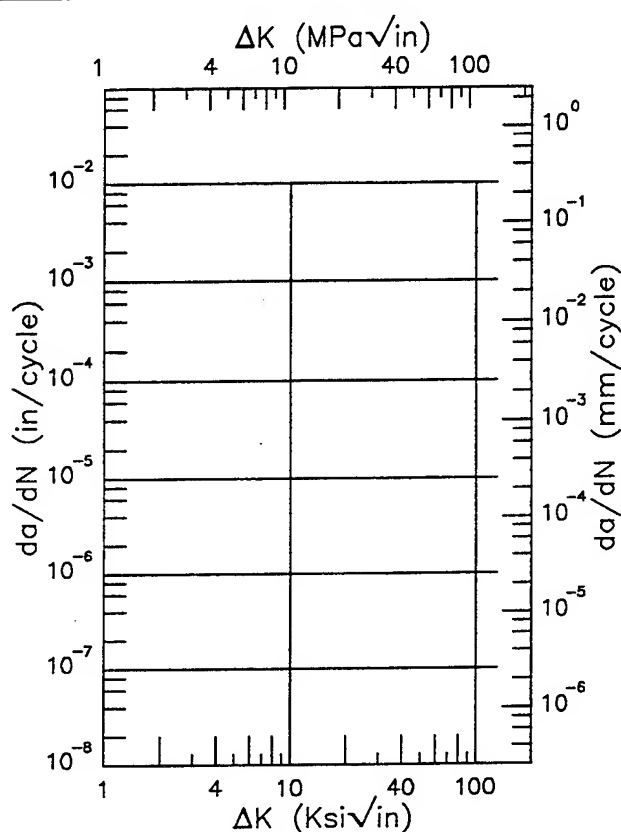
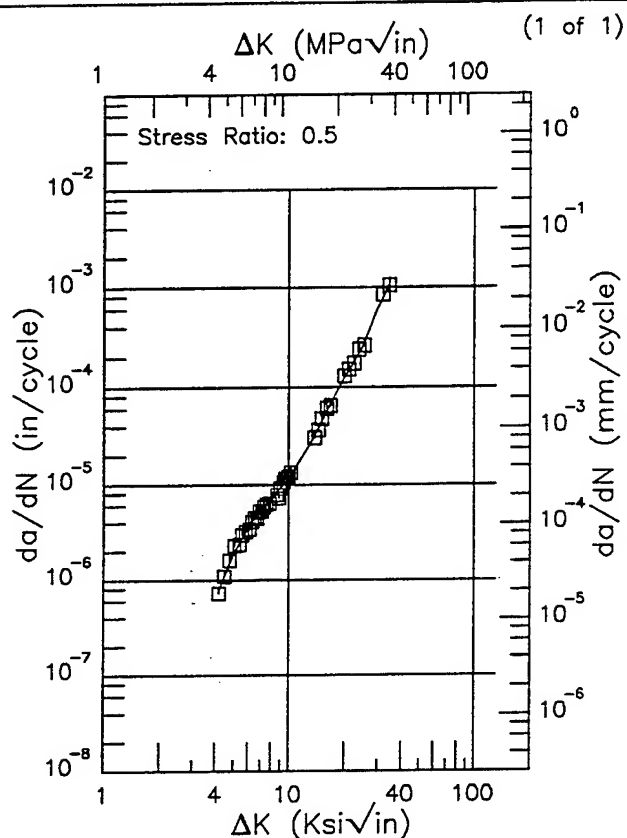


Figure 8.9.3.1.75

R | 7075 |
 Condition/Ht: T7351
 Form: 1 in. Plate
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 67.3 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 4 in.
 Ref: MA006



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.17 (min)	0.780
5.	1.87
6.	3.50
7.	5.23
8.	7.04
9.	9.10
10.	11.7
13.	25.9
16.	57.4
20.	126.
25.	258.
30.	625.
34.36 (max)	1049.

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 6.74

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.76

Condition/Ht: T7351

Form: Plate

Specimen Type: CCP (max stress specified)

Orientation: L-T

Frequency: 12 - 30 Hz

Environment: H.H.A.; RT

Yield Strength: 64.5 ksi

Ult. Strength:

Specimen Thk: 0.475 in.

Specimen Width: 4 in.

Ref: BL002

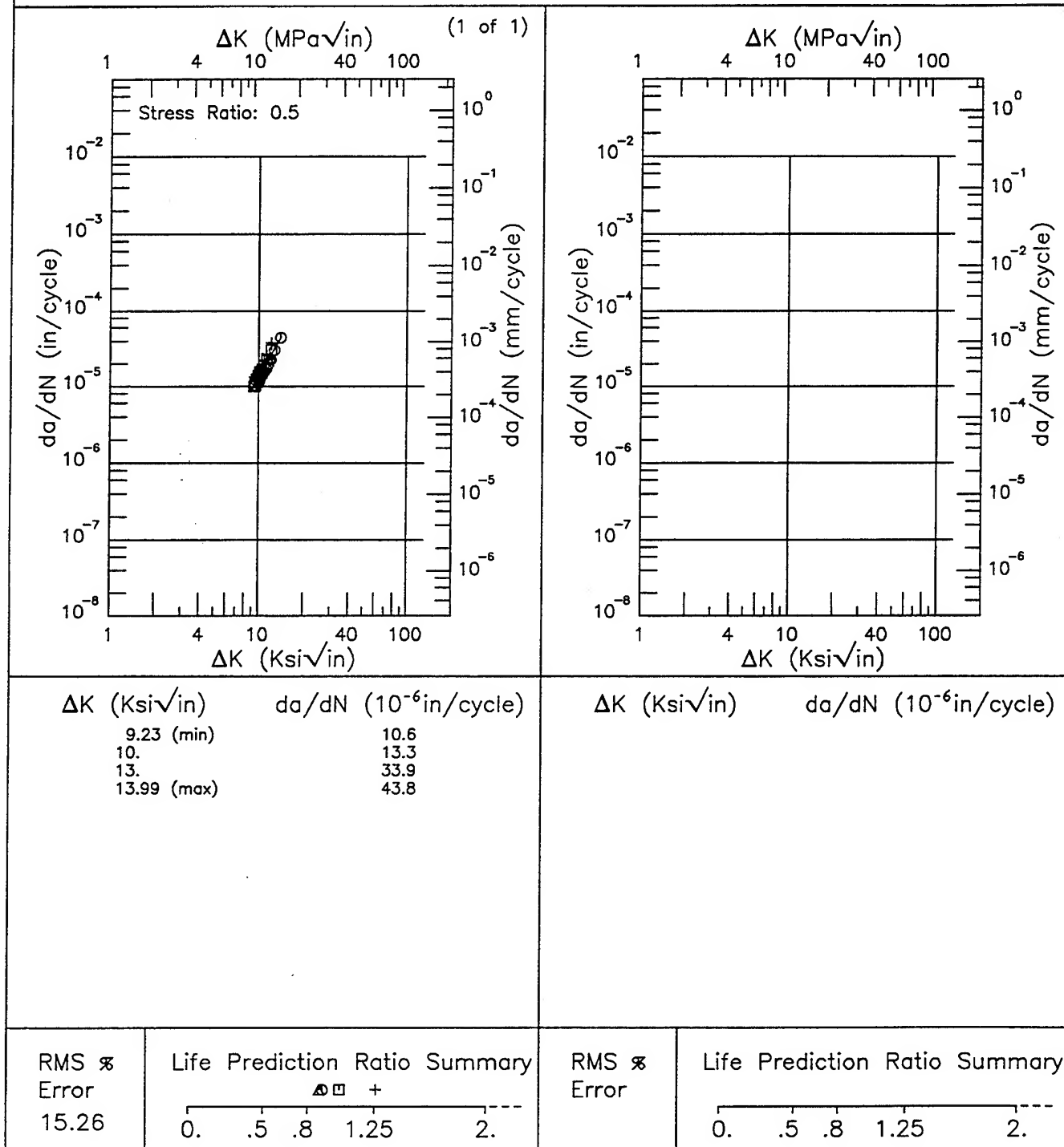


Figure 8.9.3.1.77

R | 7075 |

Condition/Ht: T7351
 Form: Plate
 Specimen Type: CCP (max stress specified)
 Orientation: L-T
 Frequency: 12 - 30 Hz
 Environment: H.H.A.; RT

Yield Strength: 60.5 ksi
 Ult. Strength:
 Specimen Thk: 0.506 in.
 Specimen Width: 6 in.
 Ref: BL002

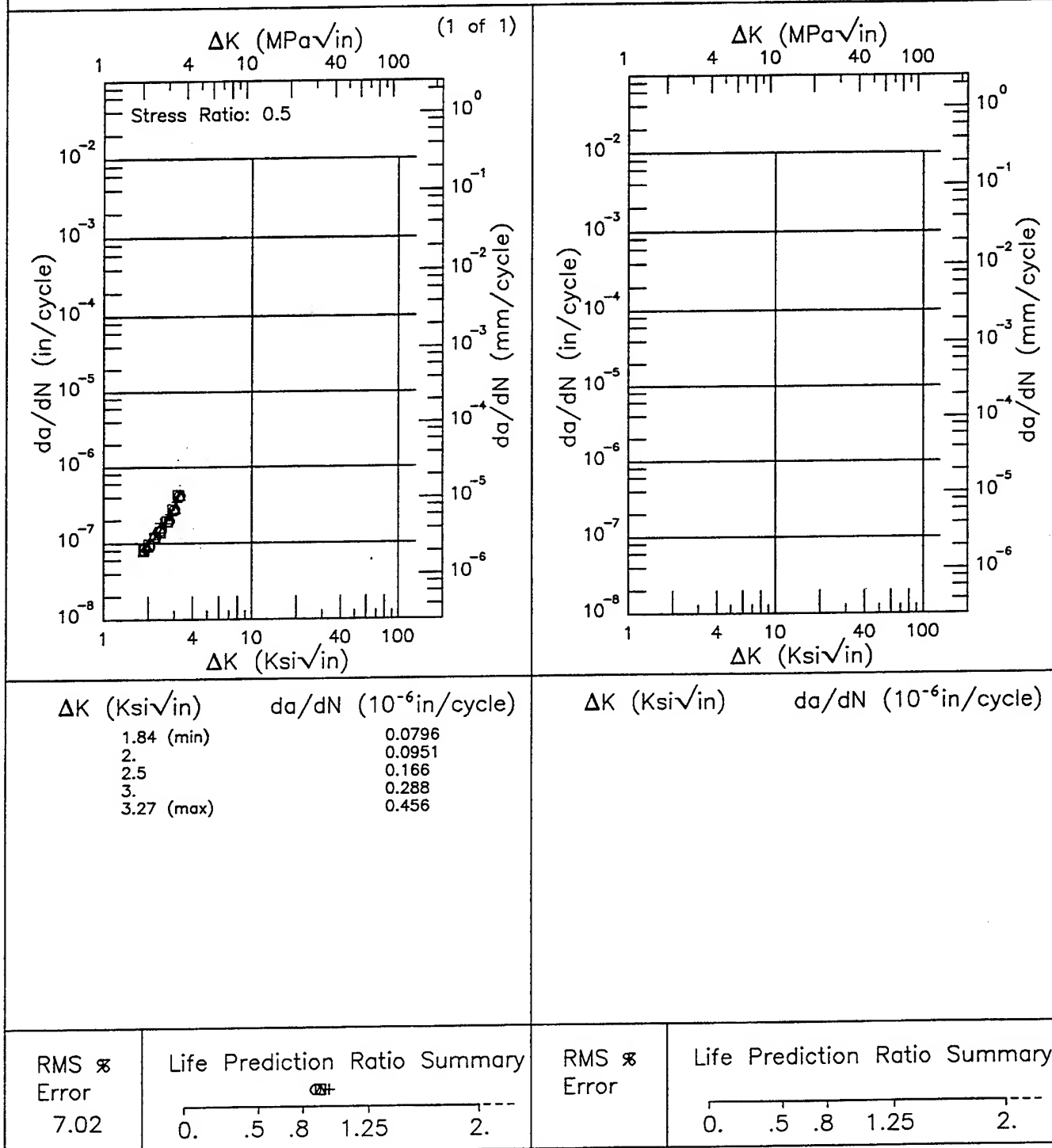


Figure 8.9.3.1.78

Condition/Ht: T7351
 Form: 1.25 - 4 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: LAB AIR; RT

Yield Strength: 53 - 57.8 ksi
 Ult. Strength: 65 - 69.3 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MD002;MA005

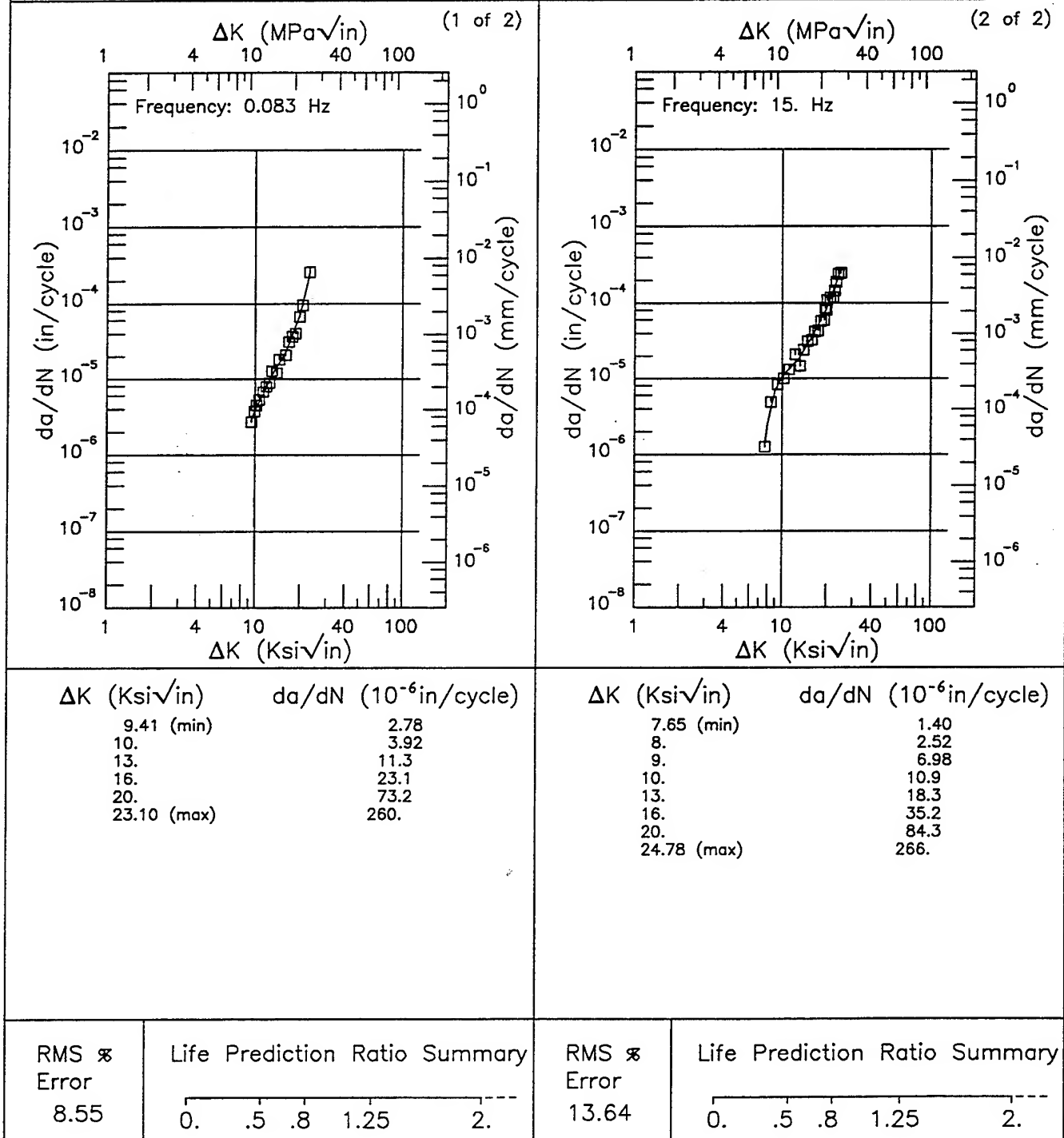
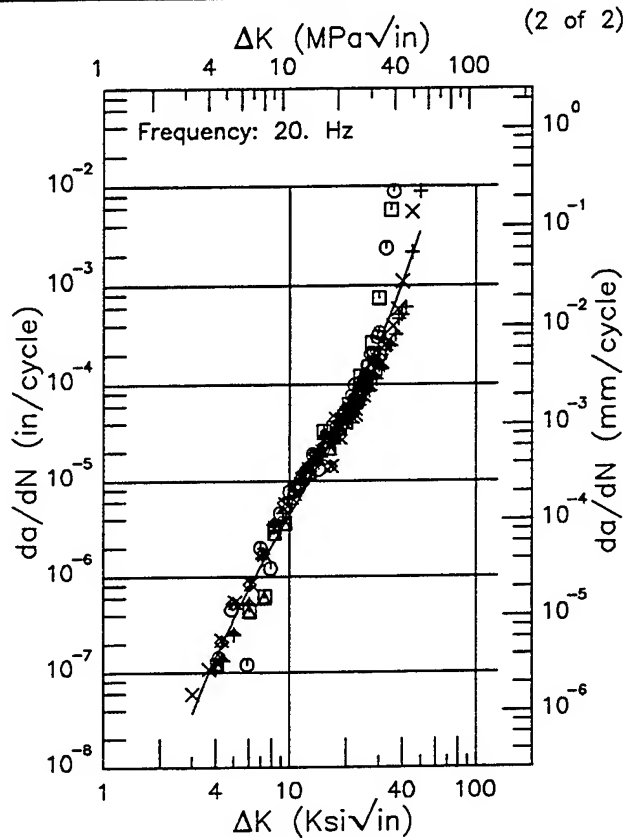
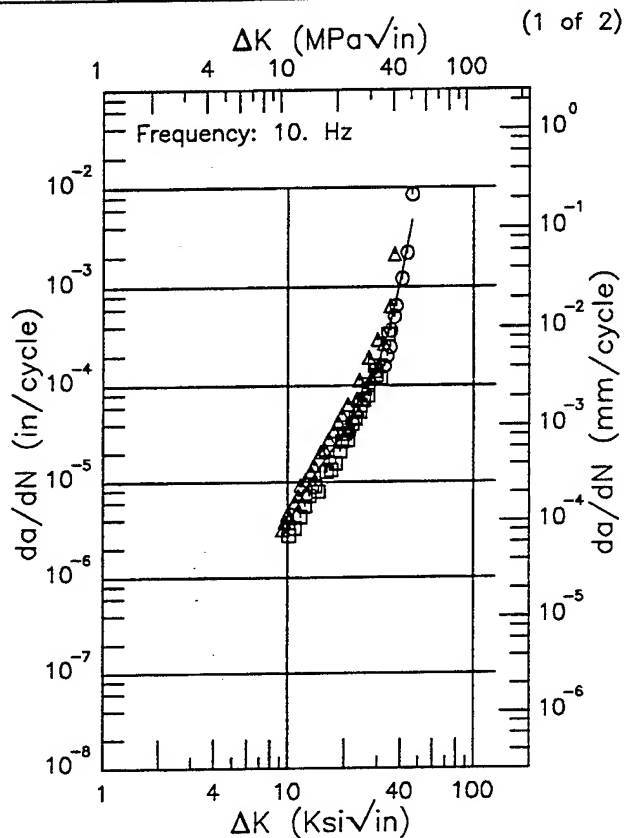


Figure 8.9.3.1.79

F 7075

Condition/Ht: T7351
 Form: 1.25 - 4 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: LAB AIR; RT

Yield Strength: 53 - 58 ksi
 Ult. Strength: 65 - 69.3 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MD002;MA005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
9.34 (min)	2.53
10.	3.54
13.	9.62
16.	17.5
20.	32.5
25.	69.0
30.	159.
35.	401.
40.	1107.
46.50 (max)	4604.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.01 (min)	0.0376
3.5	0.0783
4.	0.143
5.	0.364
6.	0.734
7.	1.28
8.	2.05
9.	3.07
10.	4.38
13.	10.6
16.	21.8
20.	49.1
25.	118.
30.	259.
35.	531.
40.	1038.
49.70 (max)	3441.

RMS %
 Error
 43.71

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 >100.0

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.80

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: JP4; RT

Yield Strength: 54.5 – 57.8 ksi
 Ult. Strength: 68 – 69.3 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA005;MD002

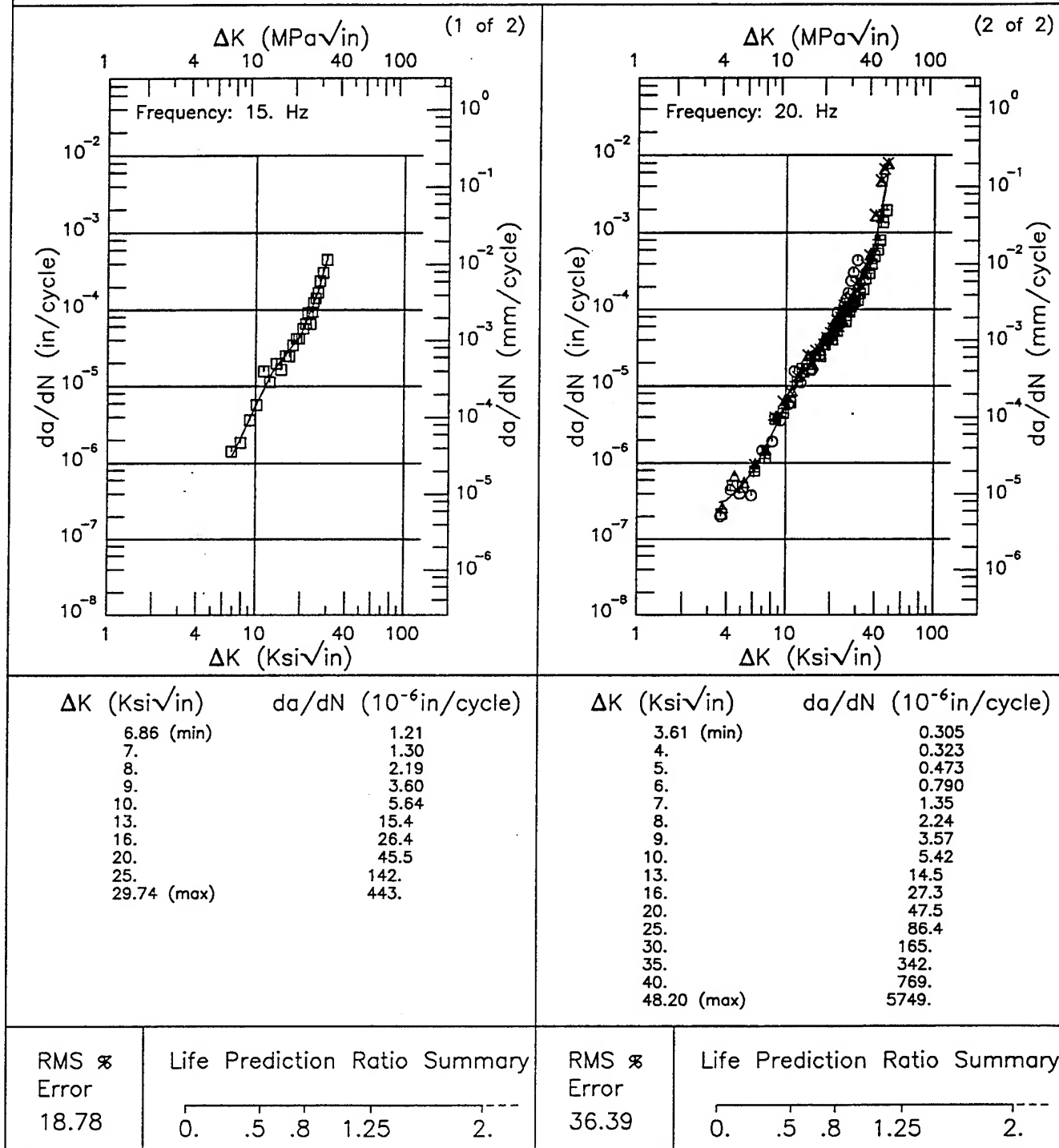


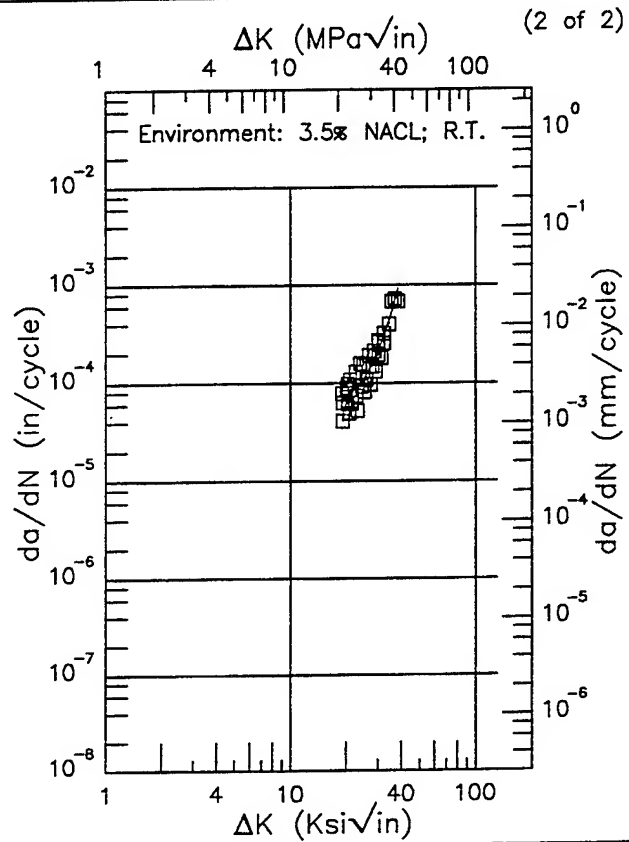
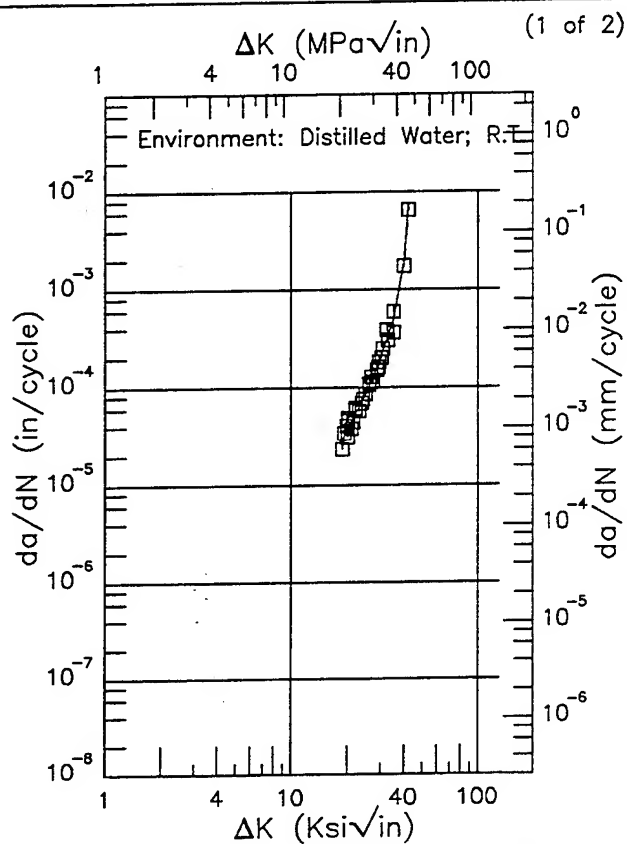
Figure 8.9.3.1.81

E

7075

Condition/Ht: T7351
 Form: 4 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Stress Ratio: 0.02
 Frequency: 1 Hz

Yield Strength: 53 ksi
 Ult. Strength: 65 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MD002



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
18.70 (min)	27.9
20.	37.7
25.	84.1
30.	199.
35.	479.
40.	1882.
42.10 (max)	6424.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
19.00 (min)	65.2
20.	70.3
25.	109.
30.	204.
35.	477.
38.30 (max)	928.

RMS %
 Error
 12.47

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 28.66

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.82

Condition/Ht: T7351
 Form: 1.25 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 0.1 – 20 Hz
 Environment: S.S.W.; RT

Yield Strength: 54.5 – 58 ksi
 Ult. Strength: 68 – 69.3 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MD002;MA005

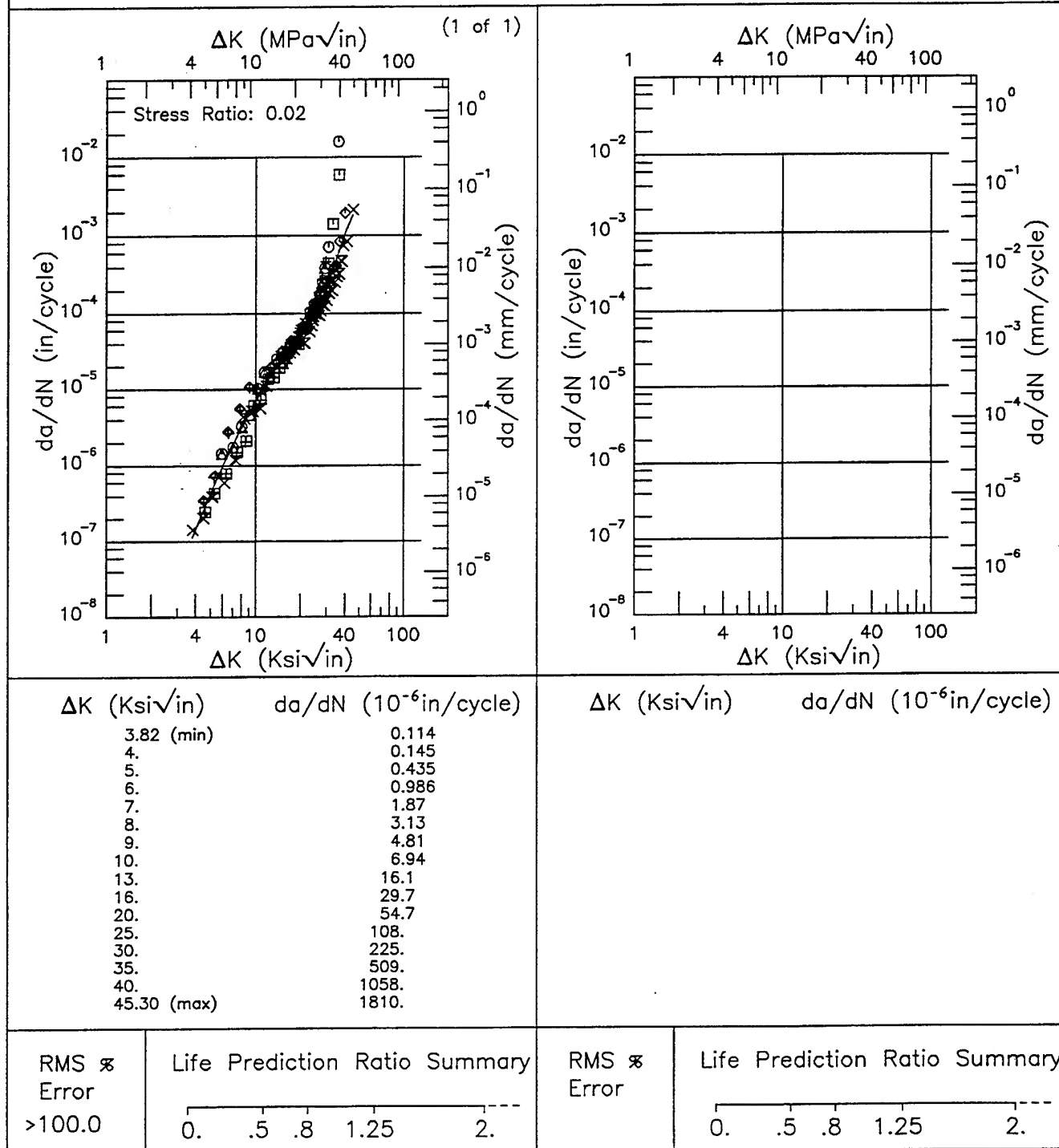
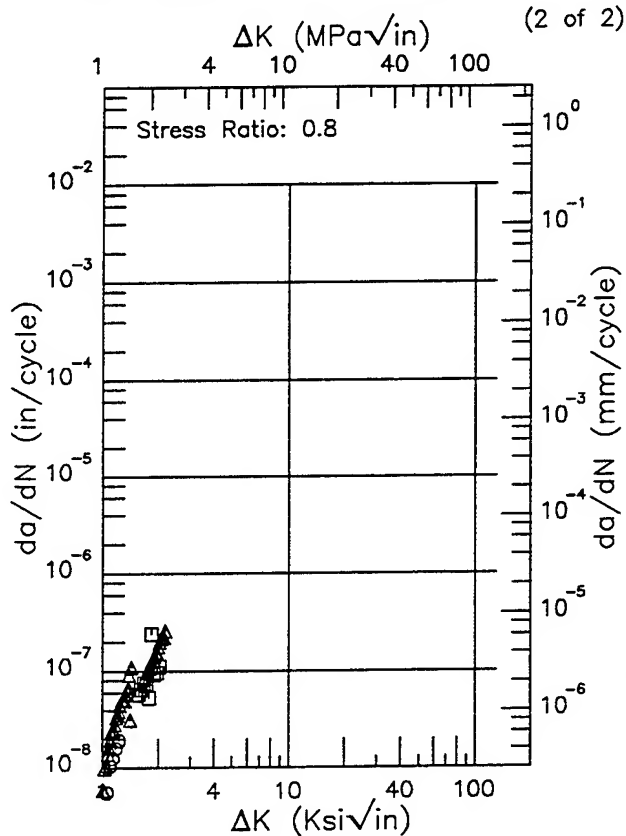
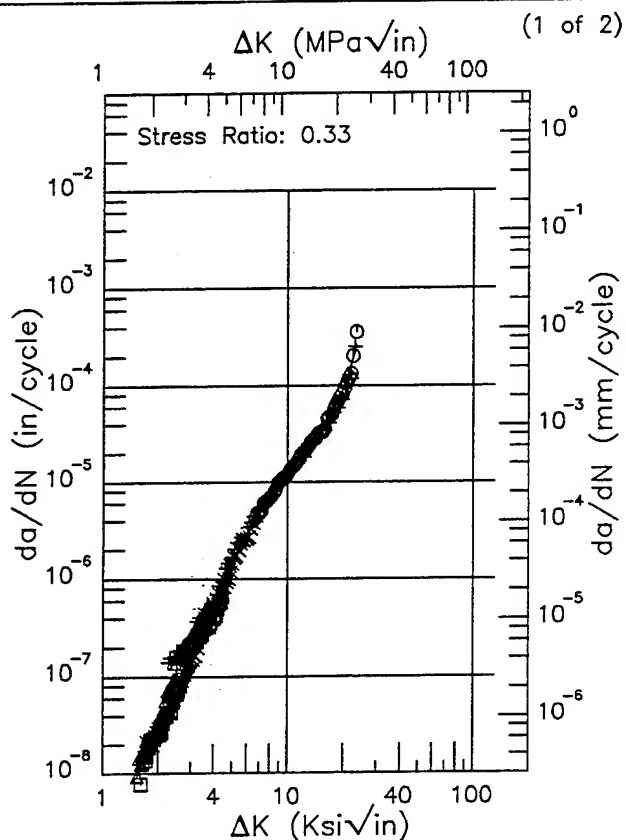


Figure 8.9.3.1.83

R | 7075 |
 Condition/Ht: T7351
 Form: 1 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 25 Hz
 Environment: H.H.A.; RT

Yield Strength: 62 ksi
 Ult. Strength: 73 ksi
 Specimen Thk: 0.25 - 0.251 in.
 Specimen Width: 2.55 - 2.554 in.
 Ref: NC002;NC003;AL005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.54 (min)	0.0101
1.6	0.0119
2.	0.0317
2.5	0.0836
3.	0.182
3.5	0.345
4.	0.592
5.	1.40
6.	2.70
7.	4.53
8.	6.87
9.	9.65
10.	12.8
13.	23.2
16.	37.1
20.	90.9
23.32 (max)	268.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.01 (min)	0.00826
1.3	0.0559
1.6	0.0668
2.	0.162
2.18 (max)	0.270

RMS %
 Error
 27.23

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error
 28.74

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.84

Condition/Ht: T7351
 Form: 1 in. Plate
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 200 Hz
 Environment: H.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.251 in.
 Specimen Width: 2.551 in.
 Ref: AL005

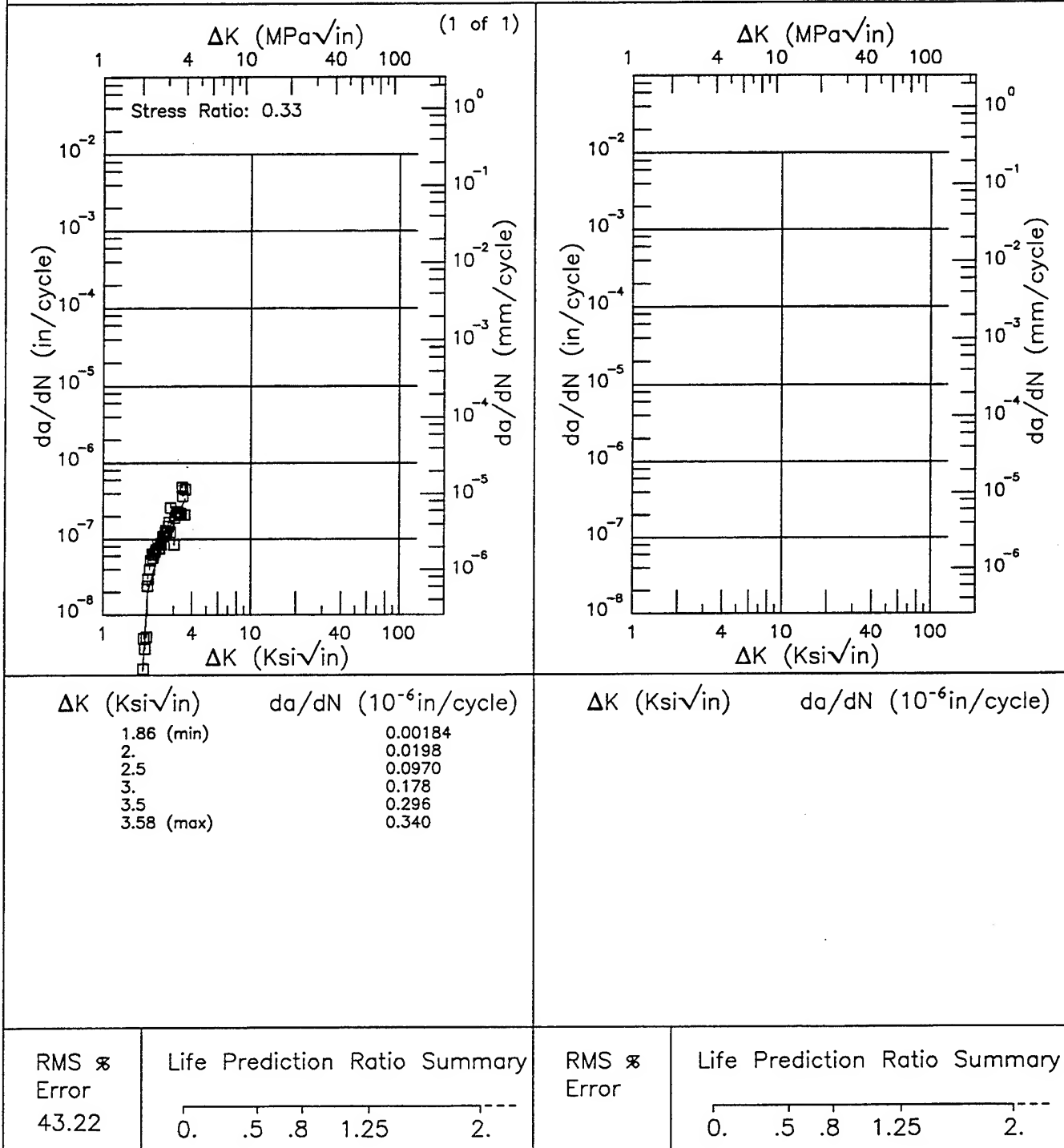
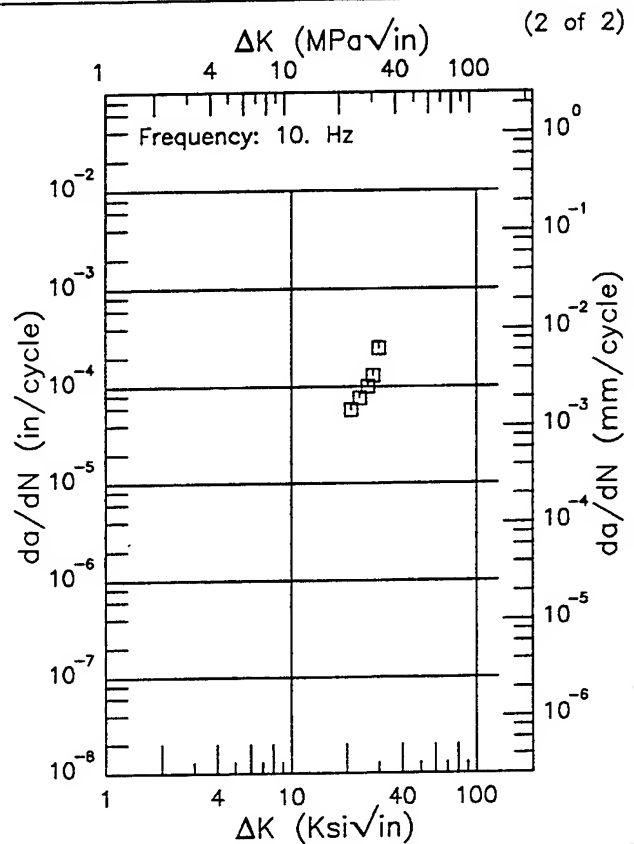
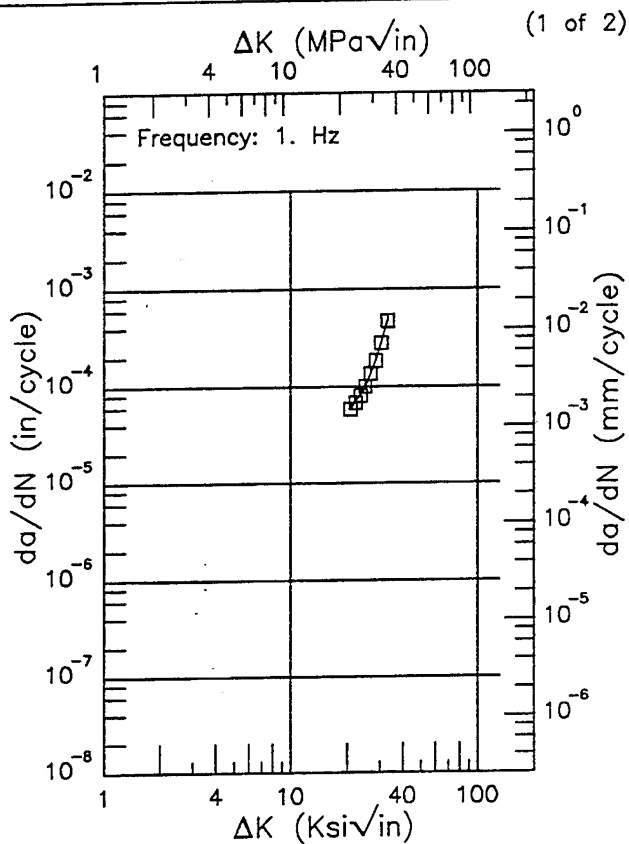


Figure 8.9.3.1.85

F 7075
 Condition/Ht: T7351 53.2
 Form: 4 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.02
 Environment: 3.5% NACL; RT

Yield Strength: 53.2 ksi
 Ult. Strength: 65.1 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: 84363



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
20.82 (min)	57.5
25.	98.5
30.	249.
32.93 (max)	471.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 2.20

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.86

Condition/Ht: T73510
 Form: 0.68 in. Extrusion
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength: 65 ksi
 Ult. Strength: 75.7 ksi
 Specimen Thk: 0.661 - 0.662 in.
 Specimen Width: 2.999 - 3.002 in.
 Ref: AL005

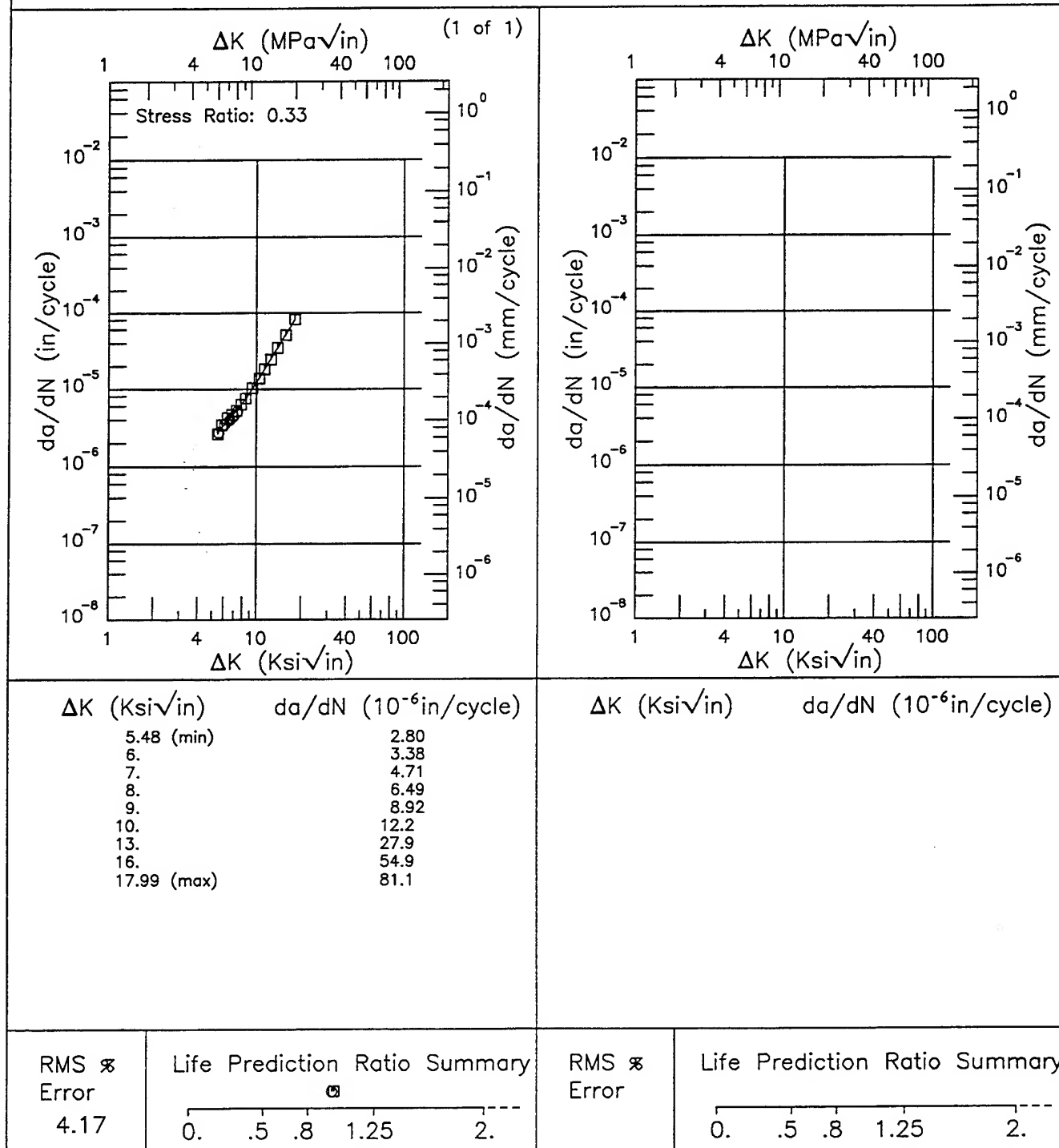


Figure 8.9.3.1.87

R

7075

Condition/Ht: T73510

Form: 0.68 in. Extrusion

Specimen Type: CCP (max load specified)

Orientation: L-T

Frequency: 5.2 Hz

Environment: LAB AIR; RT

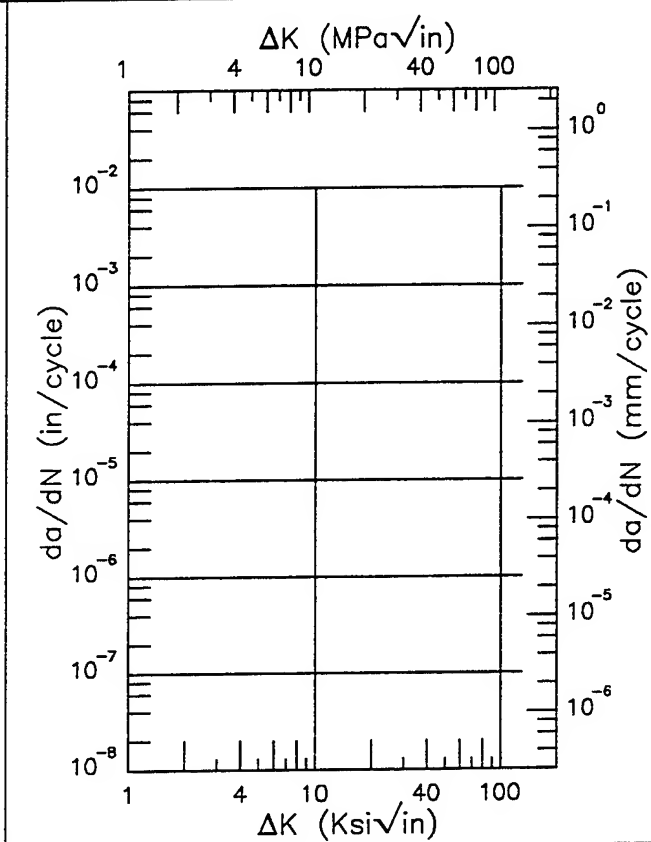
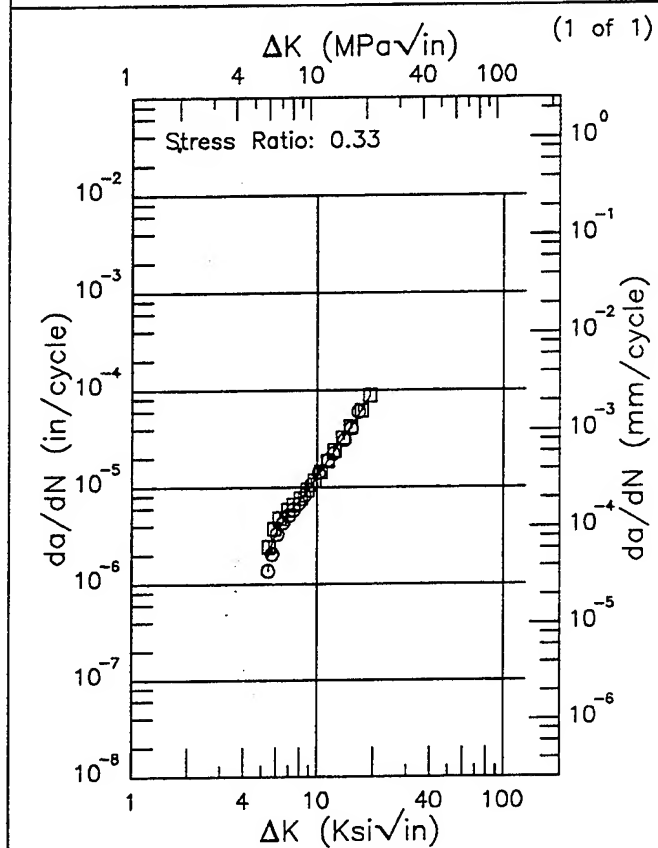
Yield Strength: 65 ksi

Ult. Strength: 75.7 ksi

Specimen Thk: 0.62 - 0.628 in.

Specimen Width: 3.003 in.

Ref: AL005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
5.42 (min)	1.96
6.	3.35
7.	5.54
8.	7.37
9.	9.53
10.	12.7
13.	27.1
16.	49.4
19.12 (max)	87.5

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10⁻⁶in/cycle)

RMS \times
Error
10.36

Life Prediction Ratio Summary

○ □

0. .5 .8 1.25 2.

RMS \times
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.88

Condition/Ht: T73510

Form: 0.68 in. Extrusion

Specimen Type: CCP (max load specified)

Orientation: T-L

Frequency: 5.2 Hz

Environment: LAB AIR; RT

Yield Strength: 62.4 ksi

Ult. Strength: 73.1 ksi

Specimen Thk: 0.499 - 0.502 in.

Specimen Width: 3.003 - 3.004 in.

Ref: AL005

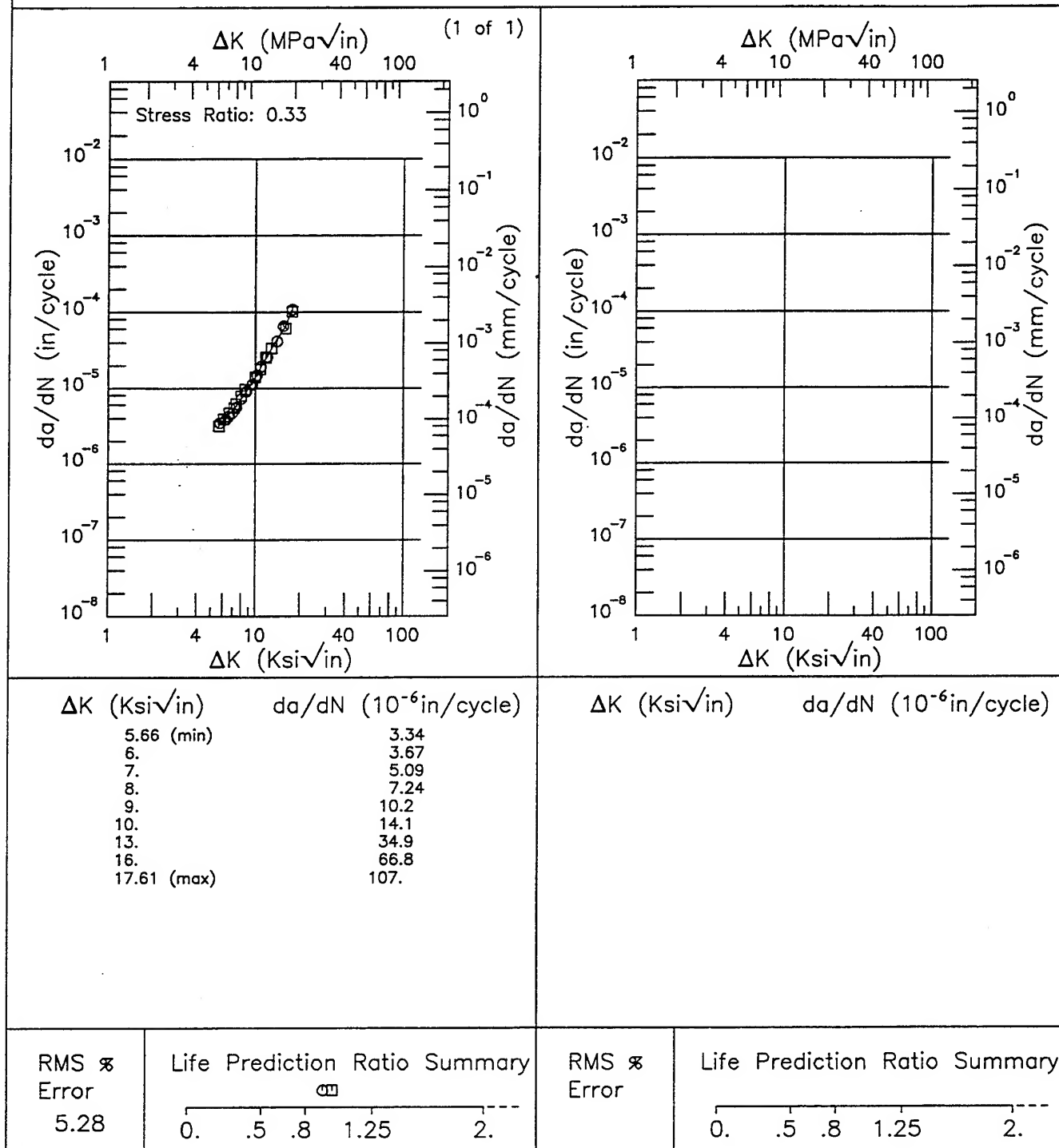
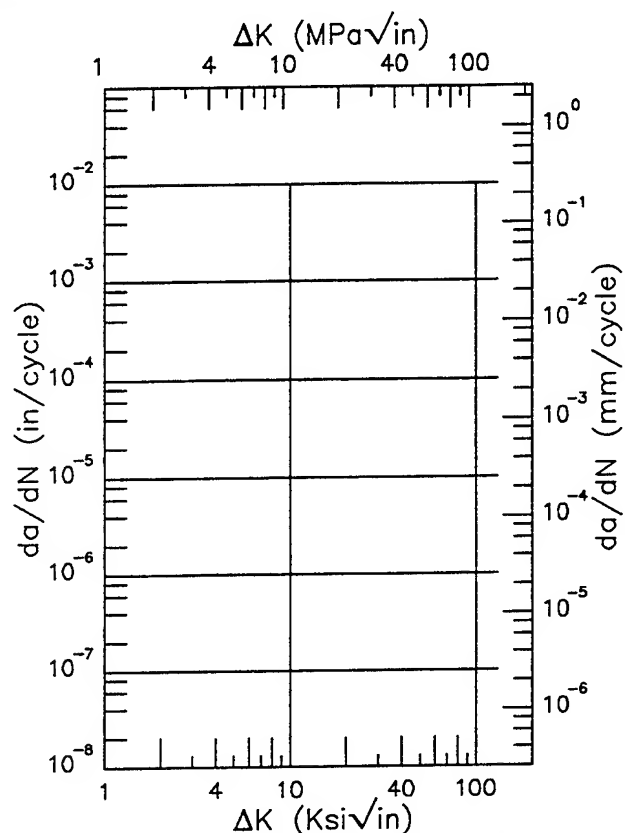
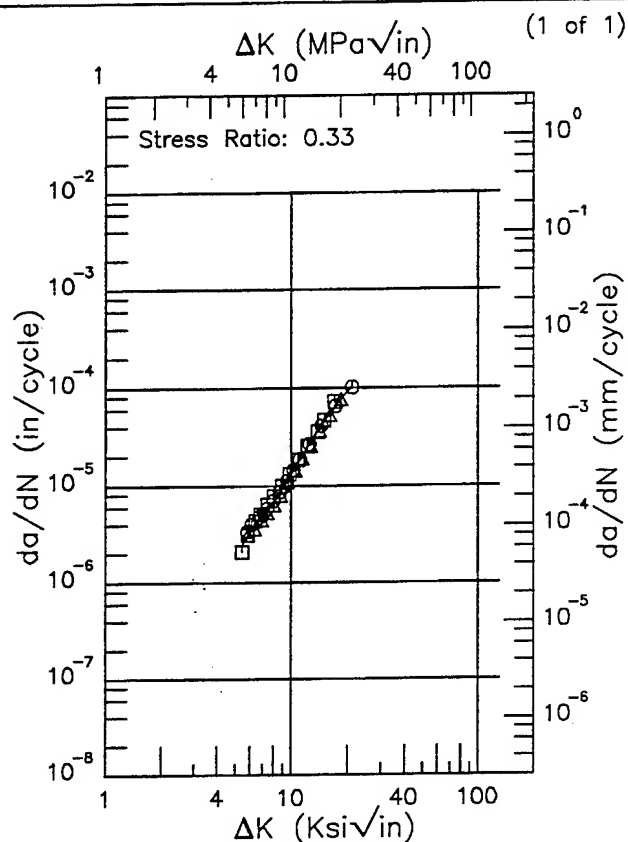


Figure 8.9.3.1.89

R | 7075 |

Condition/Ht: T73510
 Form: 3.5 in. Extruded Bar
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength: 63.8 ksi
 Ult. Strength: 73.7 ksi
 Specimen Thk: 0.75 - 0.752 in.
 Specimen Width: 3.002 in.
 Ref: AL002;AL005



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.42 (min)	2.37
6.	3.36
7.	5.12
8.	7.06
9.	9.47
10.	12.8
13.	30.0
16.	54.3
20.	92.2
21.01 (max)	100.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 6.86

Life Prediction Ratio Summary
 $\Delta \square$
 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary
 0. .5 .8 1.25 2.

Figure 8.9.3.1.90

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 0.1 Hz

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.99 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

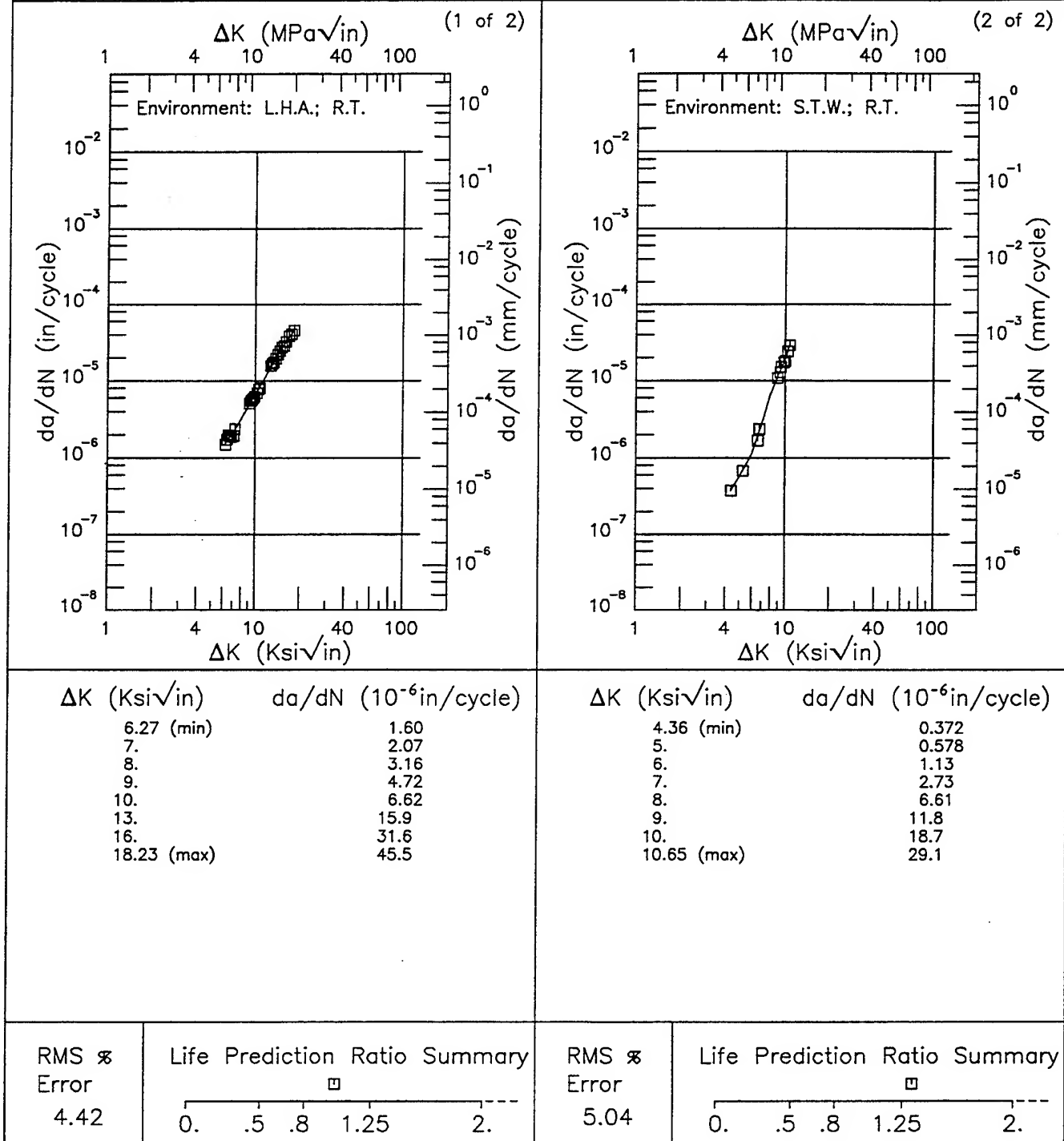


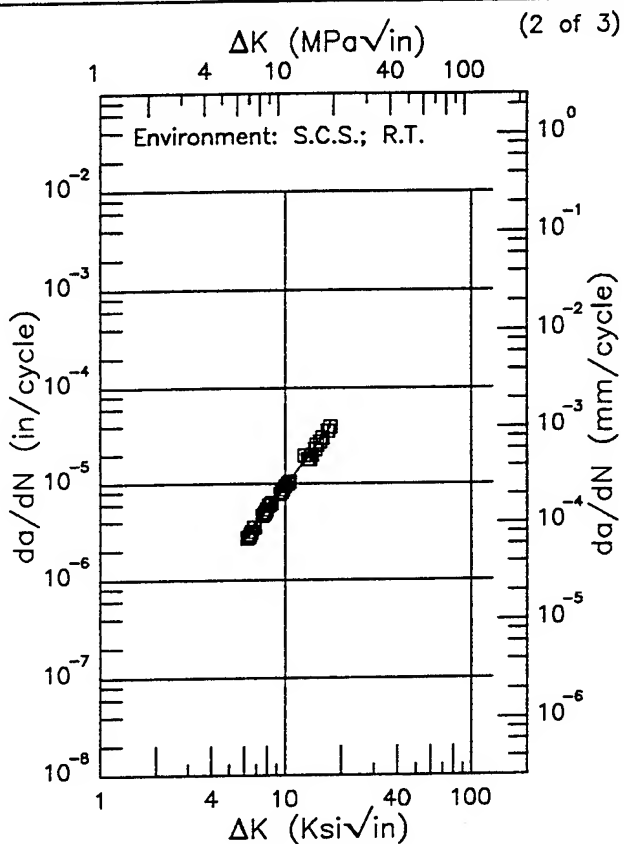
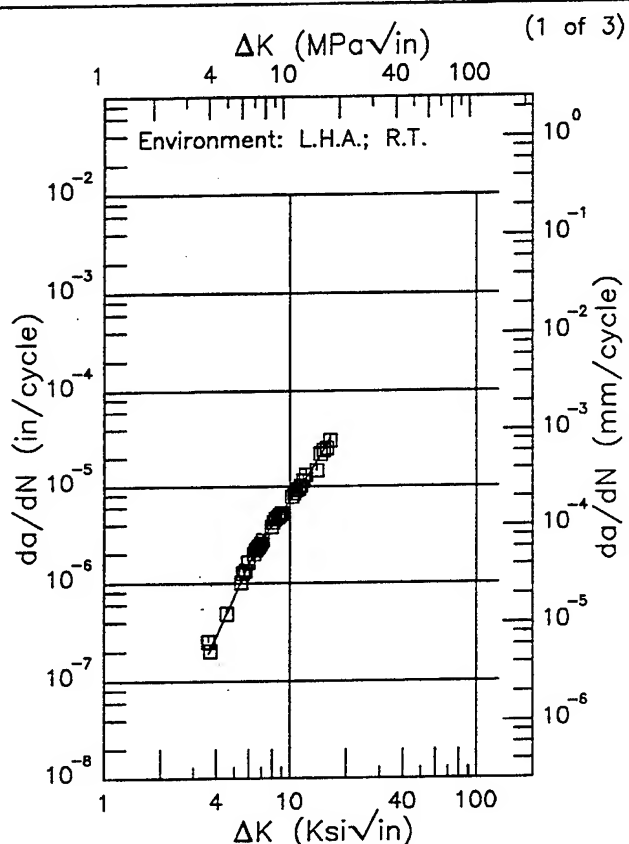
Figure 8.9.3.1.91

7075

E

Condition/Ht: T73511
Form: Extrusion
Specimen Type: CT
Orientation: L-T
Stress Ratio: 0.08
Frequency: 1 Hz

Yield Strength: 66 ksi
Ult. Strength: 77 ksi
Specimen Thk: 1 in.
Specimen Width: 7.4 in.
Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.62 (min)	0.191
4.	0.282
5.	0.729
6.	1.56
7.	2.69
8.	3.96
9.	5.40
10.	7.17
13.	14.7
16.	28.8
16.26 (max)	32.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.23 (min)	2.69
7.	3.72
8.	5.31
9.	7.21
10.	9.43
13.	18.2
16.	30.6
17.44 (max)	38.2

RMS \times
Error
7.57

Life Prediction Ratio Summary
□
0. .5 .8 1.25 2.

RMS \times
Error
4.24

Life Prediction Ratio Summary
□
0. .5 .8 1.25 2.

Figure 8.9.3.1.92

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 1 Hz

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

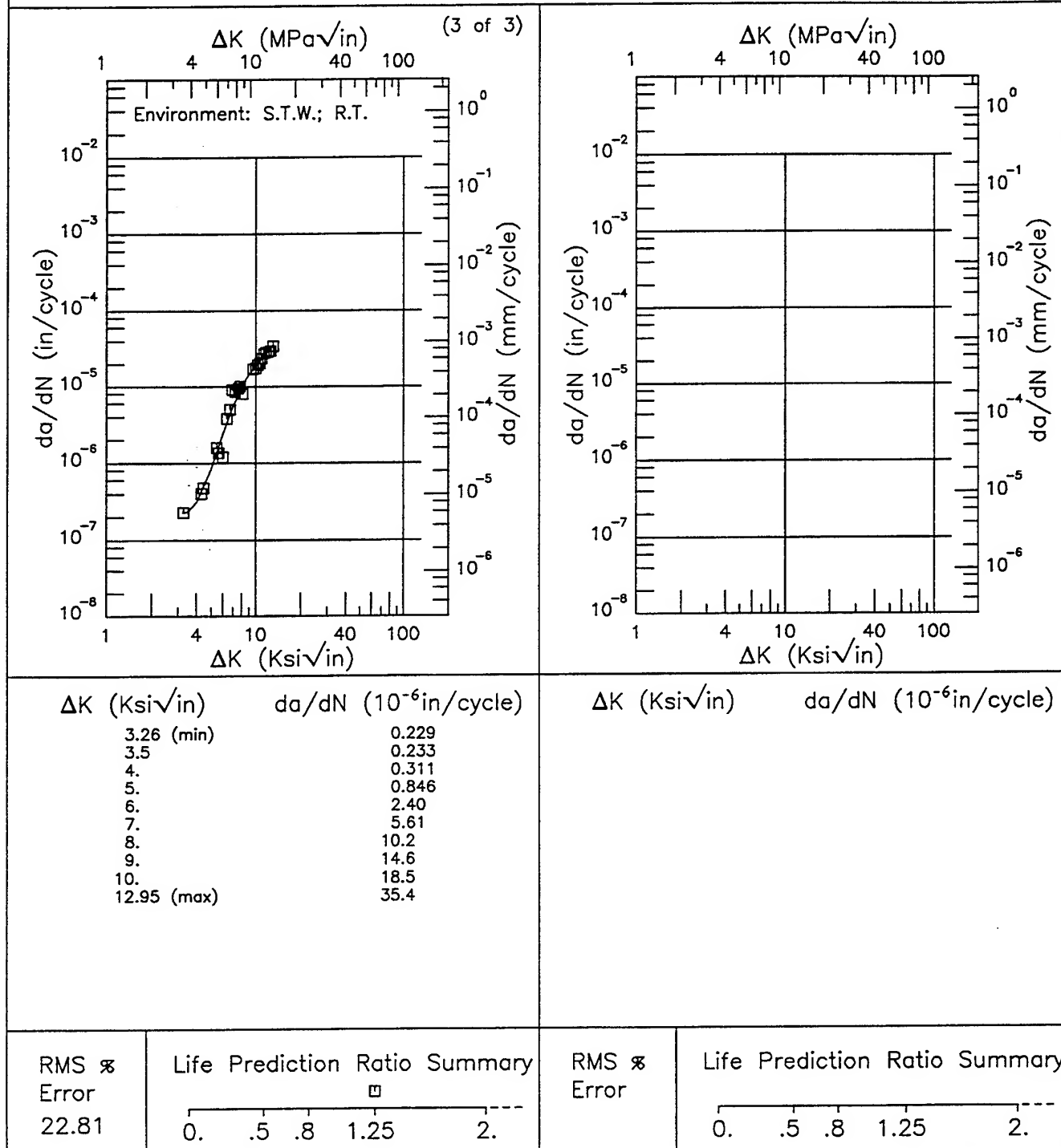
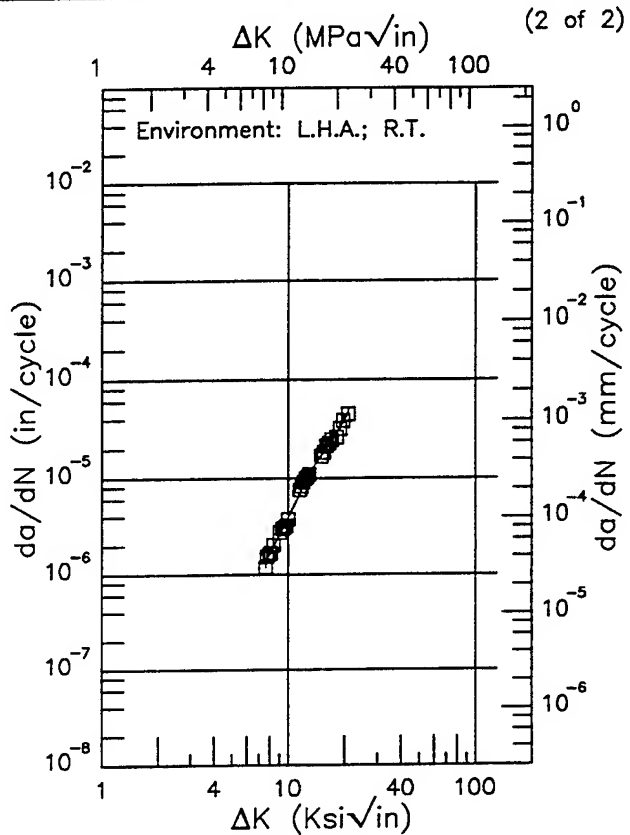
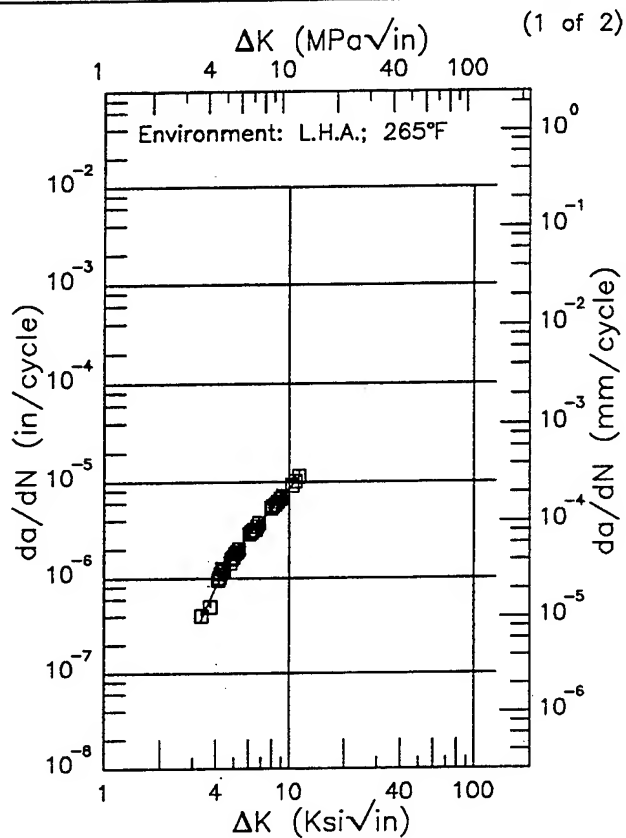


Figure 8.9.3.1.92 (Concluded)

E 7075
 Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 6 Hz

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.33 (min)	0.356
3.5	0.451
4.	0.795
5.	1.70
6.	2.78
7.	3.97
8.	5.28
9.	6.77
10.	8.51
11.28 (max)	11.2

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.56 (min)	1.36
8.	1.65
9.	2.59
10.	4.01
13.	11.4
16.	20.3
20.	39.1
20.79 (max)	46.2

RMS %
 Error
 6.88

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 5.87

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.93

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 7.4 in.
 Ref: 88579

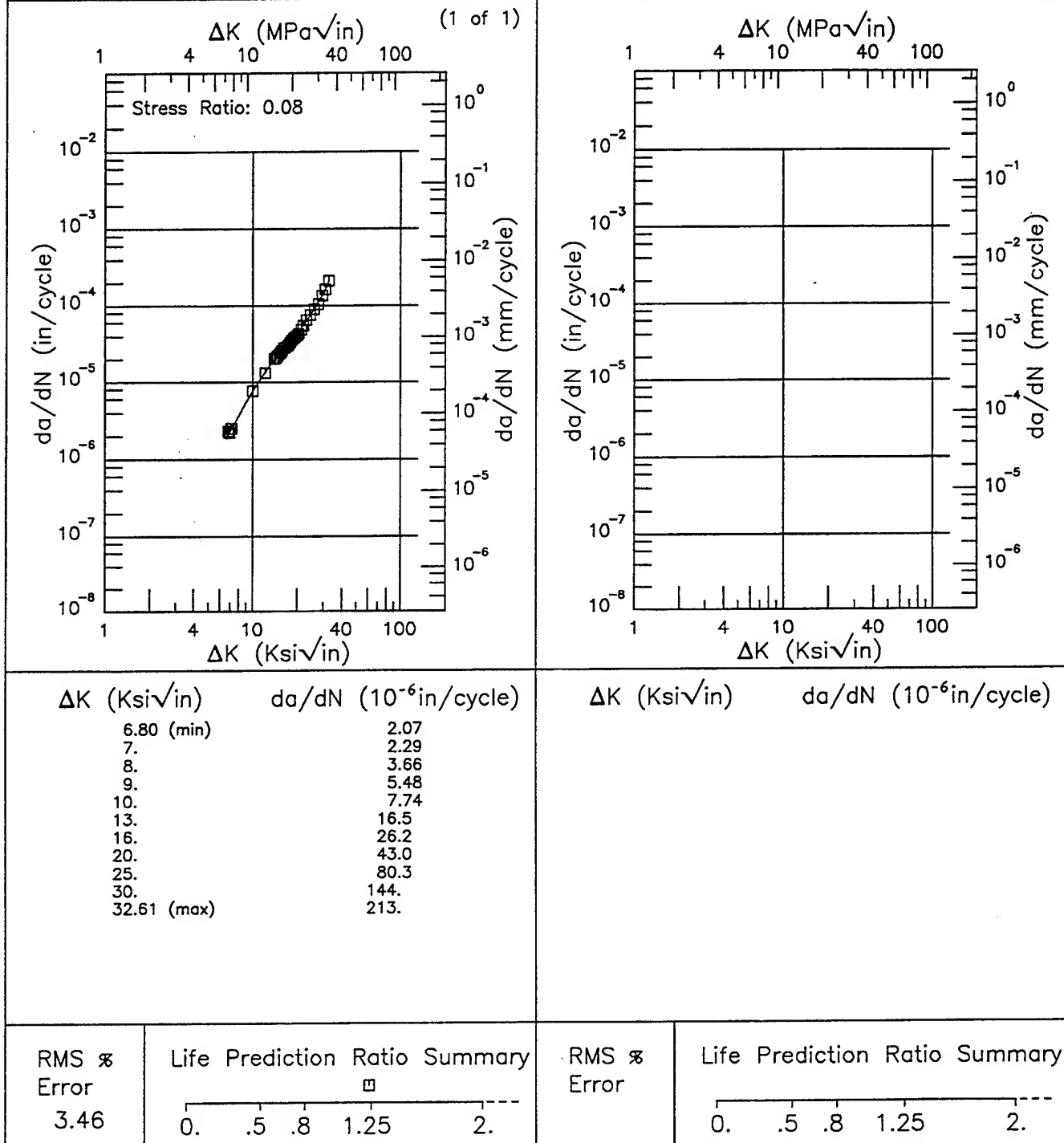


Figure 8.9.3.1.94

R

7075

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 7.4 in.
 Ref: 88579

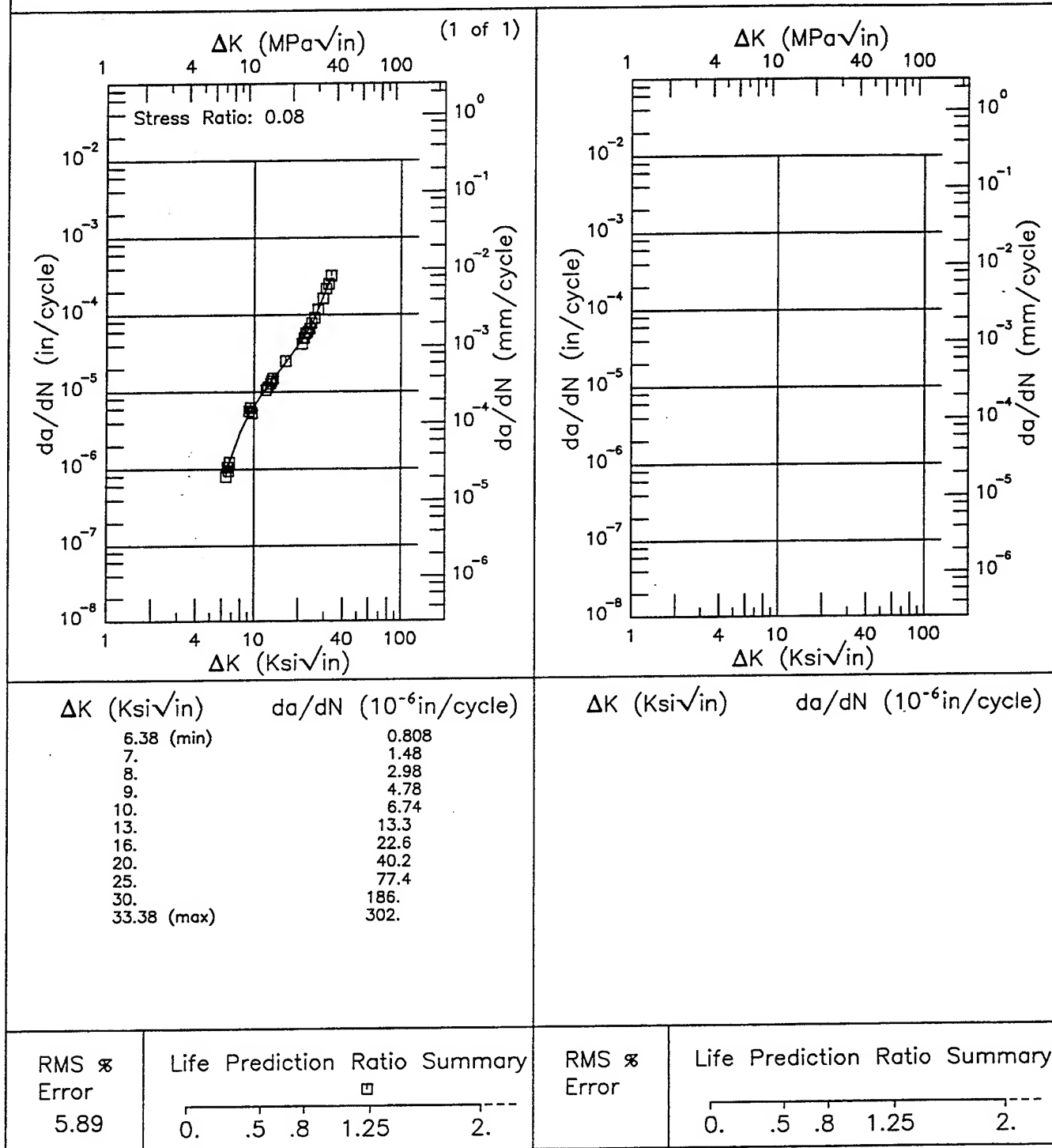


Figure 8.9.3.1.95

Condition/Ht: T73511
 Form: 4 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 10 Hz
 Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
 Ult. Strength:
 Specimen Thk: 0.746 in.
 Specimen Width: 3 in.
 Ref: SW001

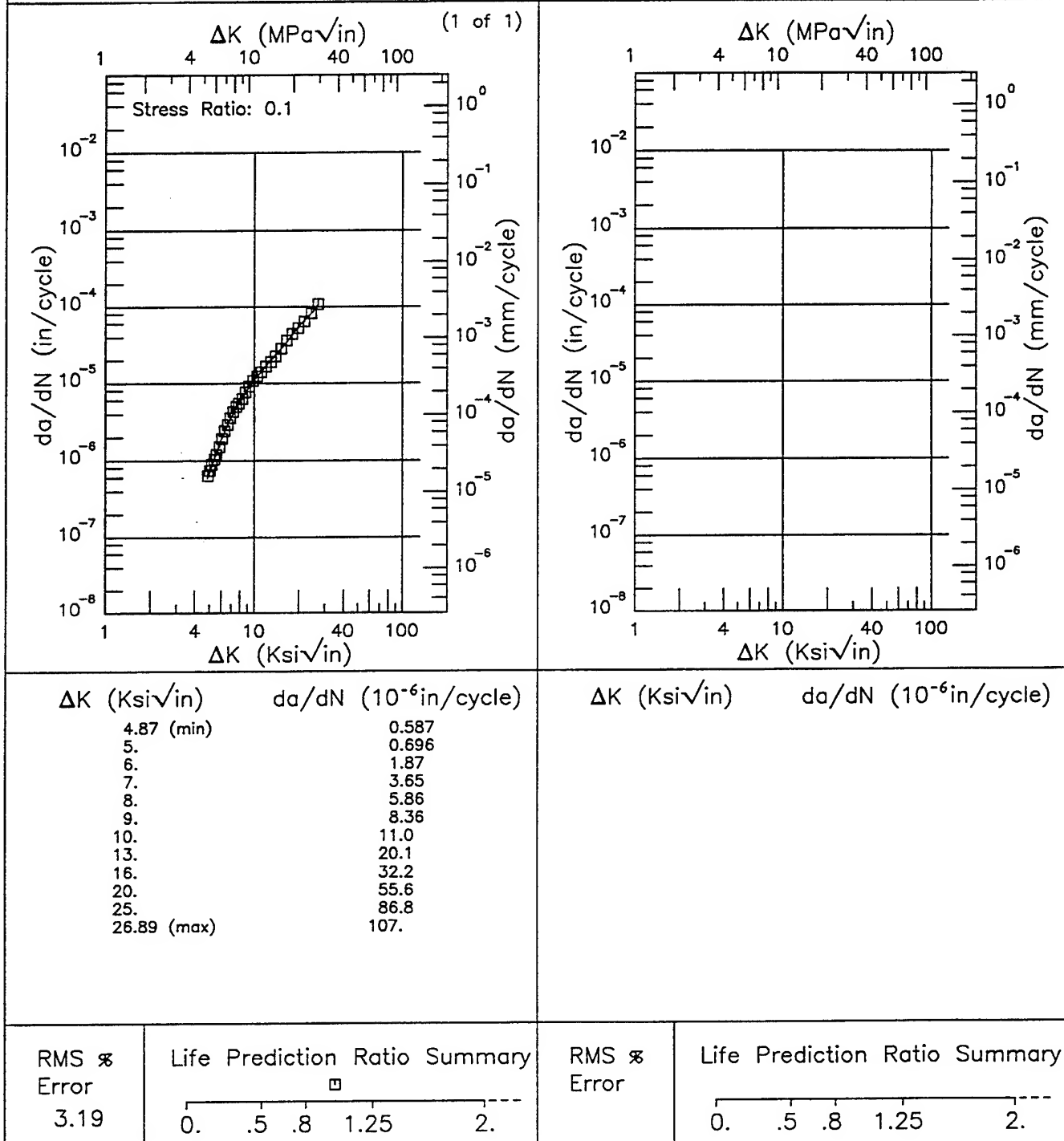


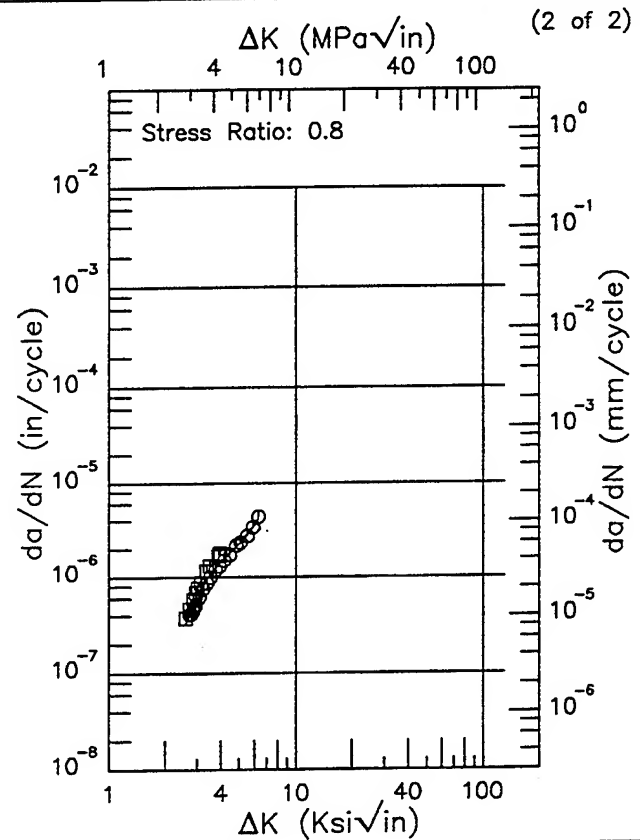
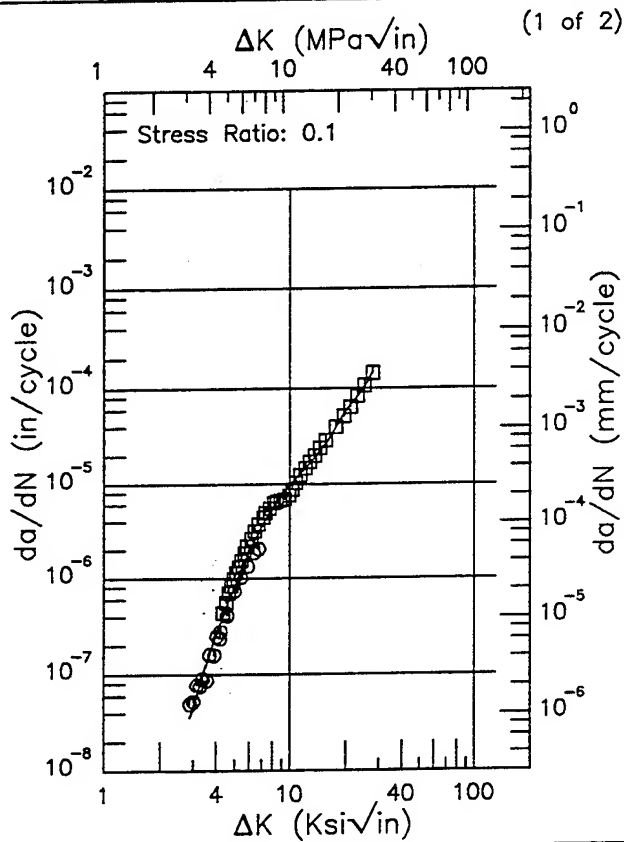
Figure 8.9.3.1.96

R

7075

Condition/Ht: T73511
 Form: 4 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
 Ult. Strength:
 Specimen Thk: 0.746 - 0.749 in.
 Specimen Width: 3 - 3.003 in.
 Ref: SW001



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.88 (min)	0.0357
3.	0.0460
3.5	0.119
4.	0.259
5.	0.837
6.	1.93
7.	3.53
8.	5.53
9.	7.69
10.	9.82
13.	16.7
16.	28.6
20.	58.3
25.	99.8
27.75 (max)	143.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
2.59 (min)	0.330
3.	0.659
3.5	1.08
4.	1.46
5.	2.25
6.	3.57
6.29 (max)	4.19

RMS %
 Error
 18.25

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
 Error
 12.78

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.97

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

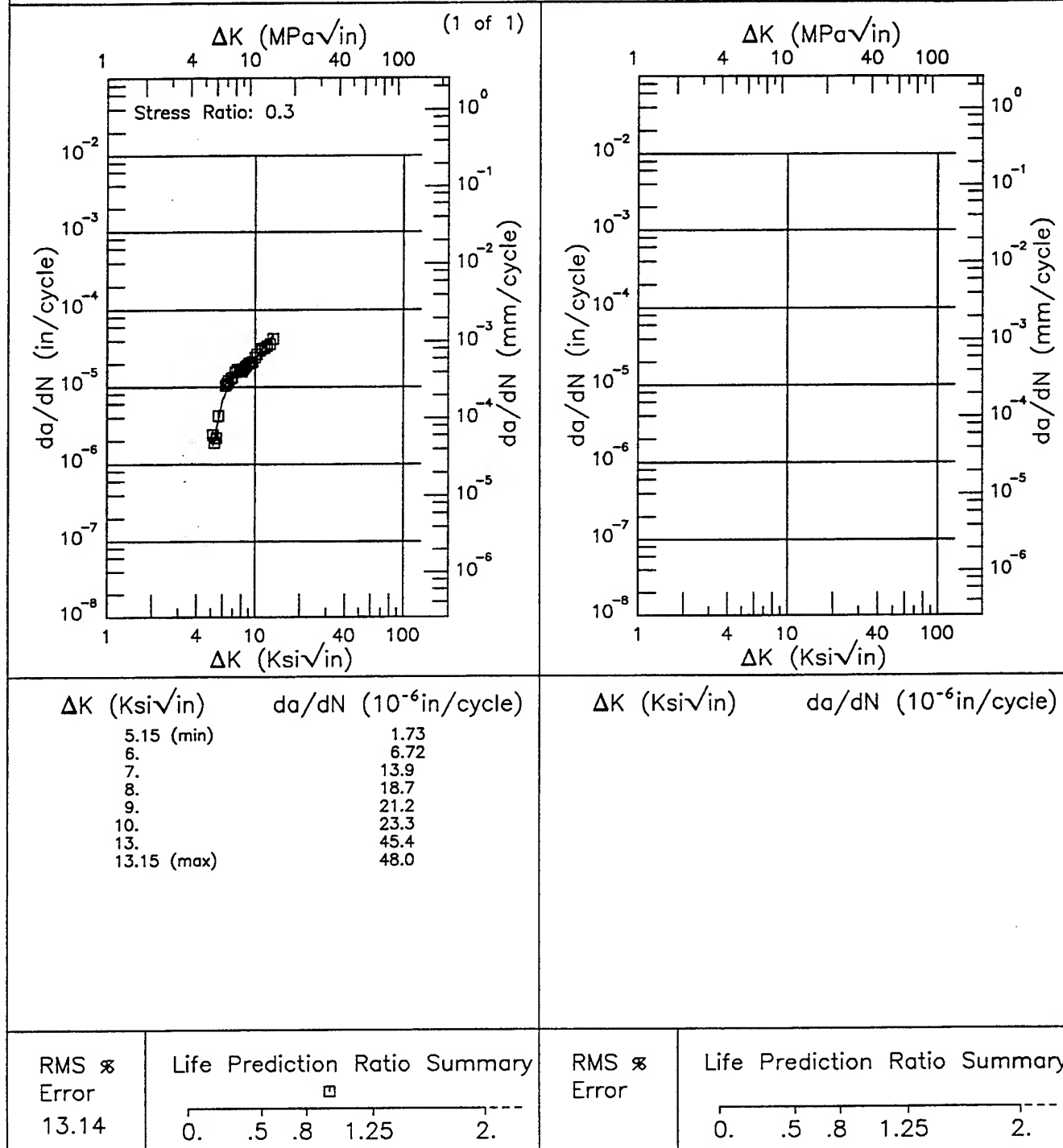
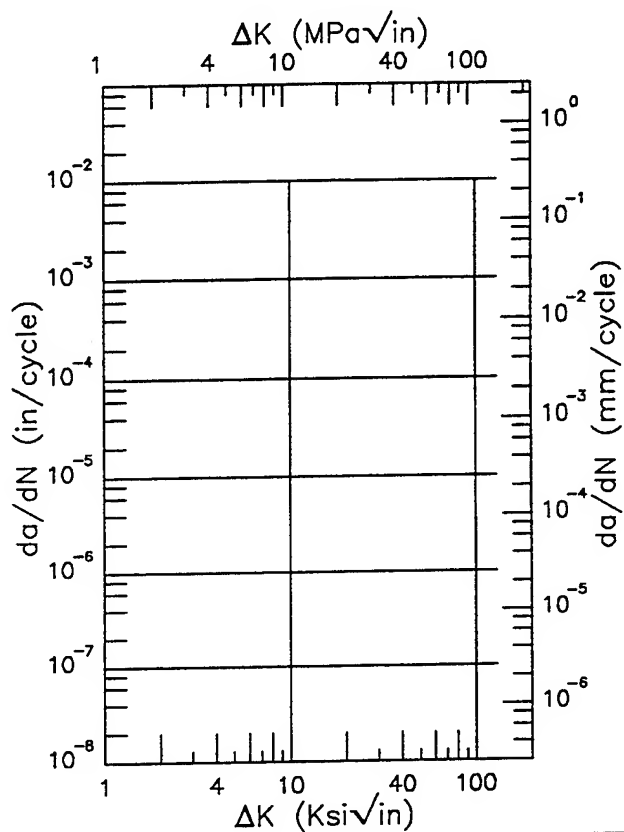
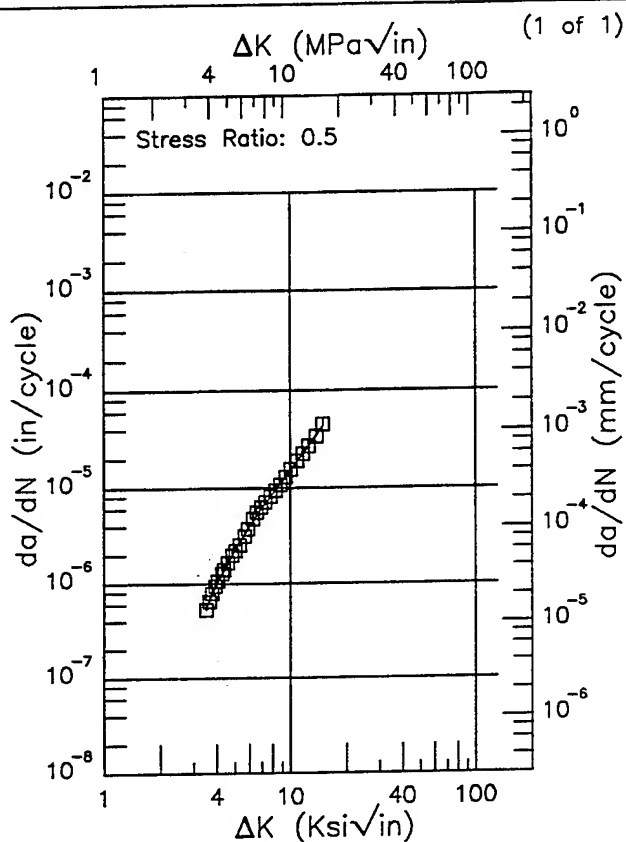


Figure 8.9.3.1.98

R 7075
 Condition/Ht: T73511
 Form: 4 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
 Ult. Strength:
 Specimen Thk: 0.785 in.
 Specimen Width: 3 in.
 Ref: SW001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.51 (min)	0.568
4.	0.981
5.	2.22
6.	3.98
7.	6.17
8.	8.73
9.	11.7
10.	15.1
13.	29.8
14.85 (max)	43.6

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS \propto
 Error
 3.43

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS \propto
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.99

Condition/Ht: T73511
 Form: 4 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.5
 Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
 Ult. Strength:
 Specimen Thk: 0.748 - 0.749 in.
 Specimen Width: 3 in.
 Ref: SW001

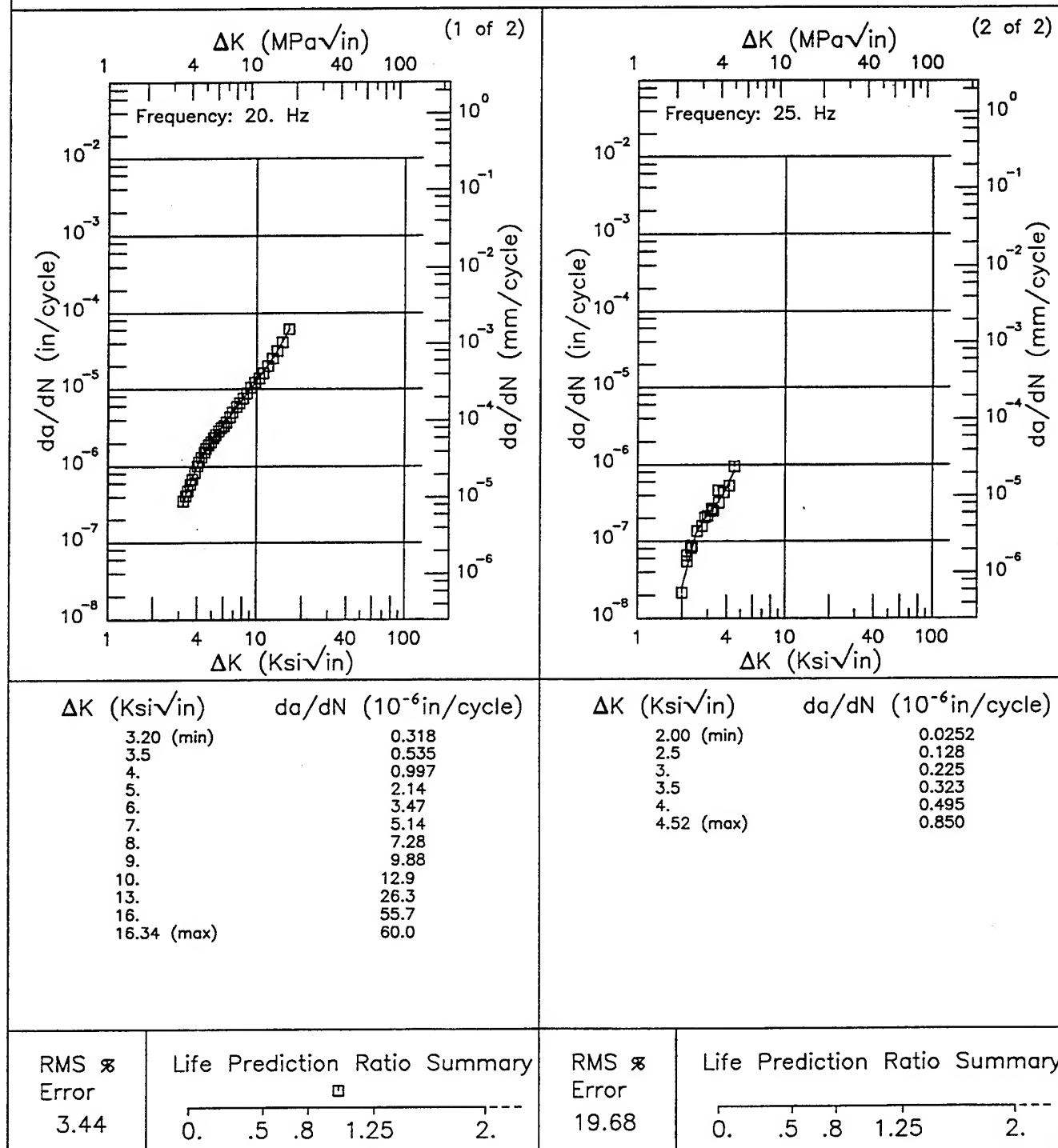
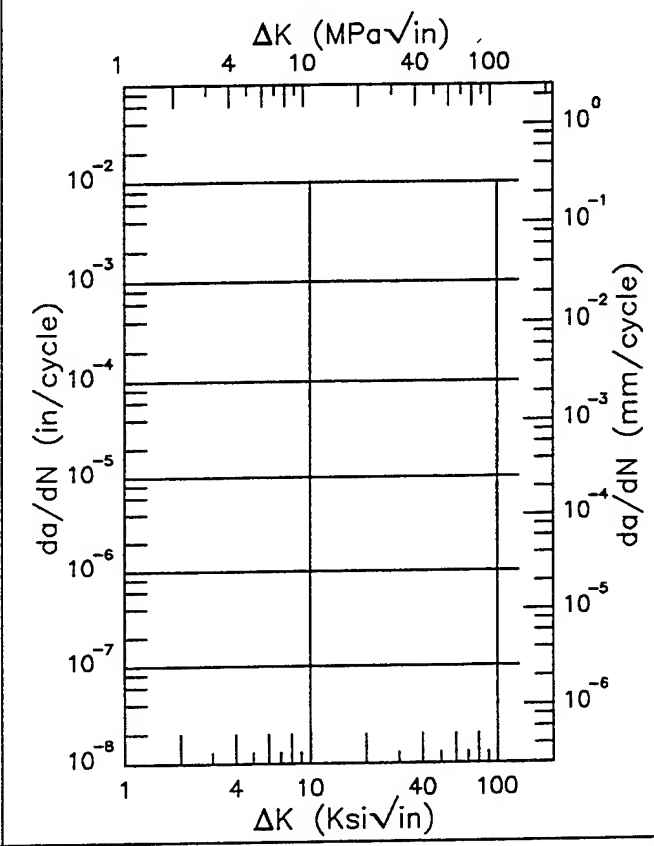
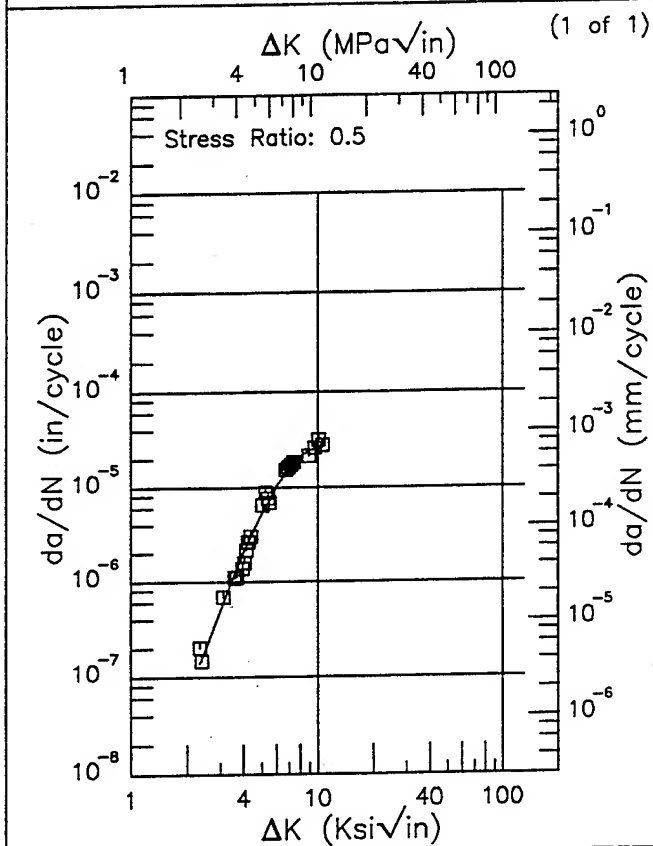


Figure 8.9.3.1.100

R 7075
 Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
2.33 (min)	0.139
2.5	0.197
3.	0.495
3.5	1.07
4.	2.02
5.	5.32
6.	10.4
7.	16.1
8.	21.3
9.	24.8
10.	26.2
10.49 (max)	26.1

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)

RMS % Error 17.48	Life Prediction Ratio Summary □ 0. .5 .8 1.25 2.	RMS % Error	Life Prediction Ratio Summary 0. .5 .8 1.25 2.
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Figure 8.9.3.1.101
 8-680

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 66 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

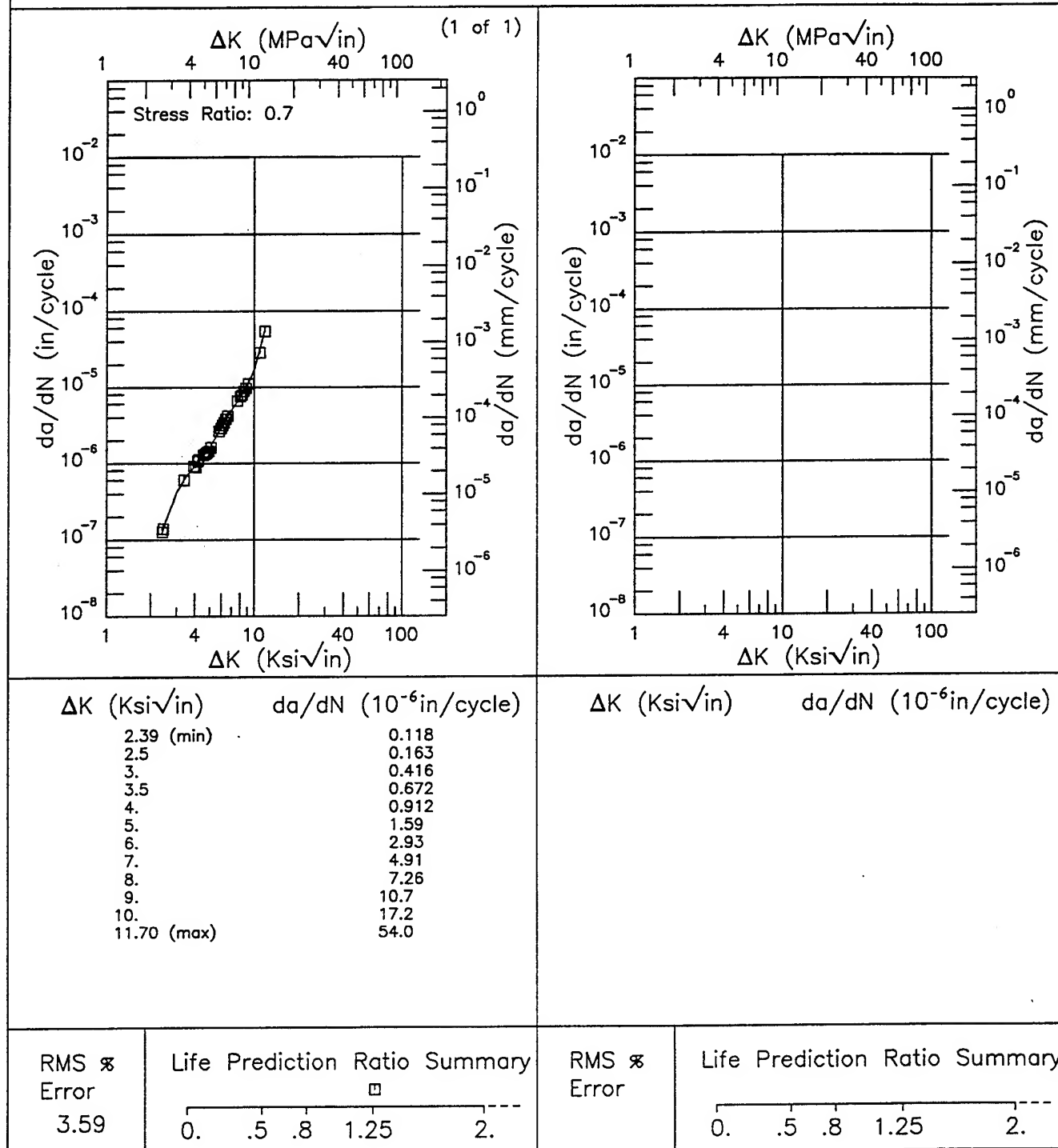


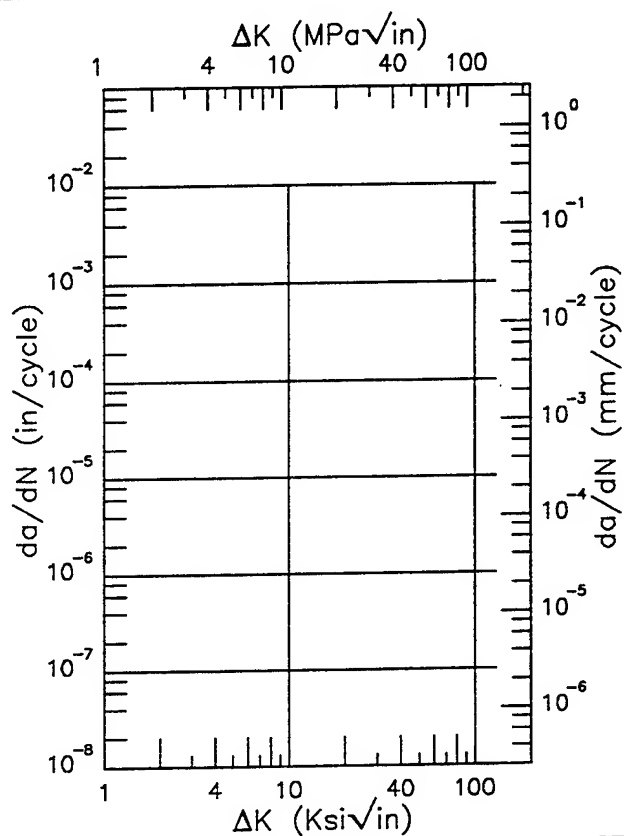
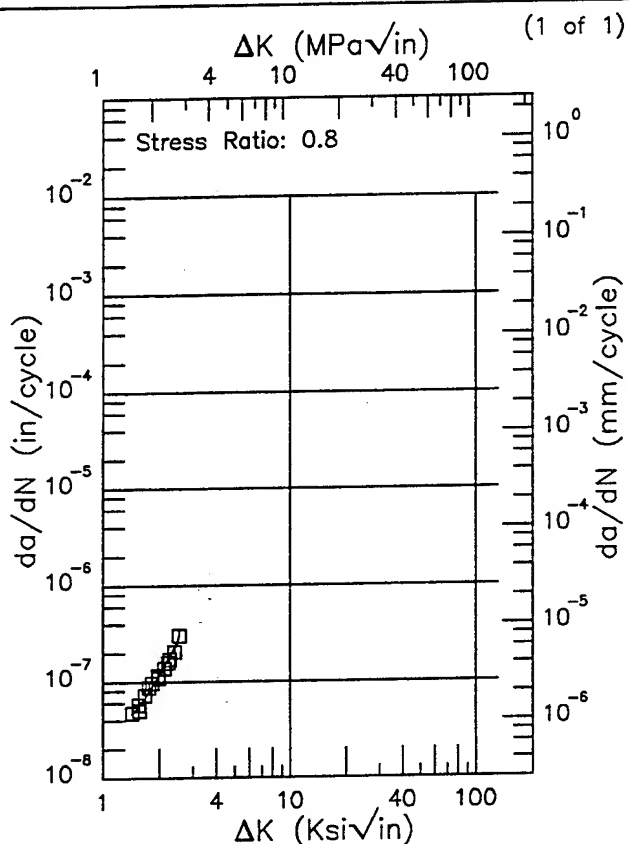
Figure 8.9.3.1.102

R

7075

Condition/Ht: T73511
 Form: 4 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 67.4 ksi
 Ult. Strength:
 Specimen Thk: 0.749 in.
 Specimen Width: 3 in.
 Ref: SW001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
1.43 (min)	0.0465
1.6	0.0594
2.	0.117
2.5	0.267
2.53 (max)	0.299

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
 Error
 7.20

Life Prediction Ratio Summary
 0. .5 .8 1.25 2.-----

RMS %
 Error

Life Prediction Ratio Summary
 0. .5 .8 1.25 2.-----

Figure 8.9.3.1.103

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.08
 Frequency: 6 Hz

Yield Strength: 61 ksi
 Ult. Strength: 72 ksi
 Specimen Thk: 0.99 - 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

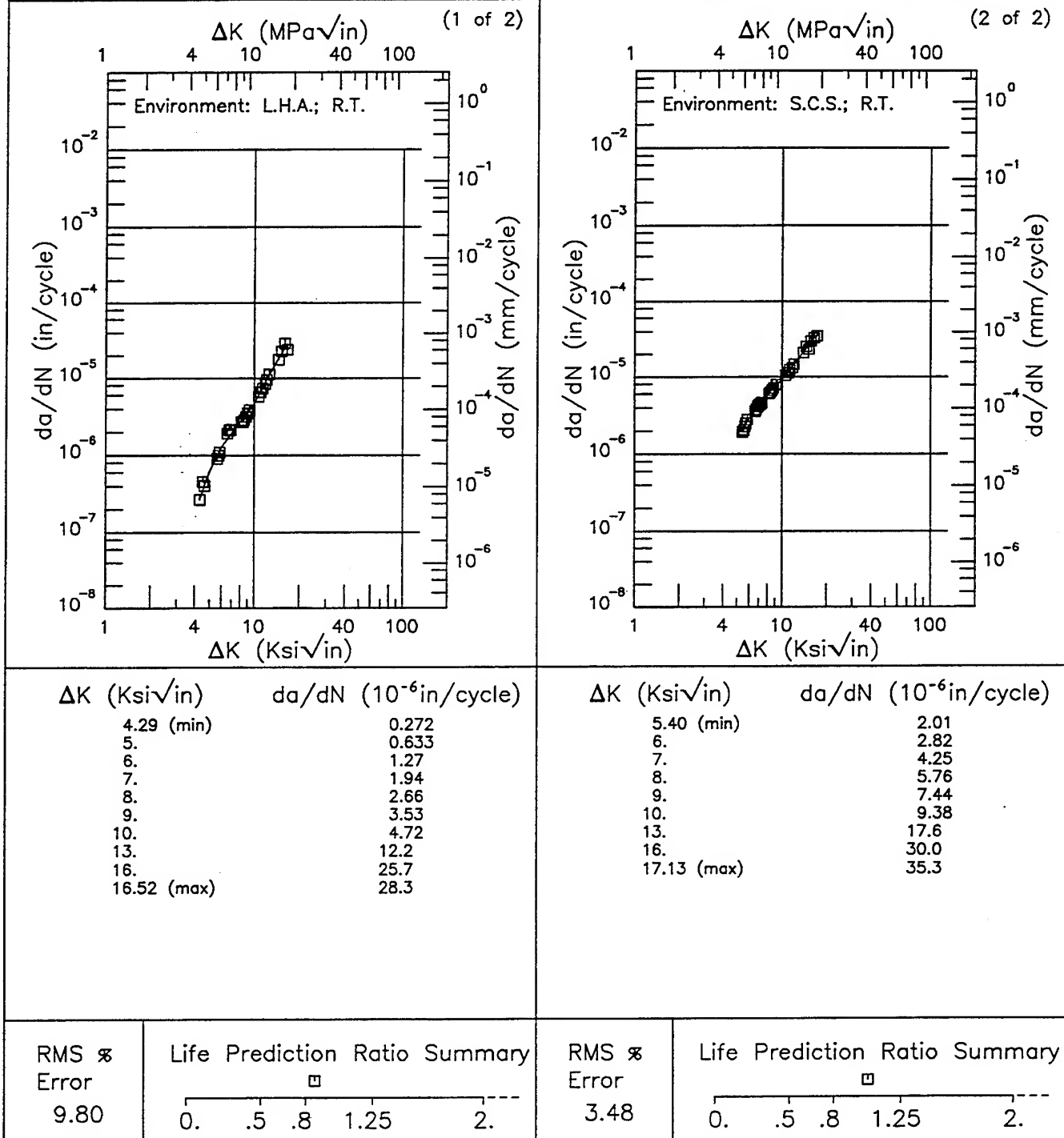


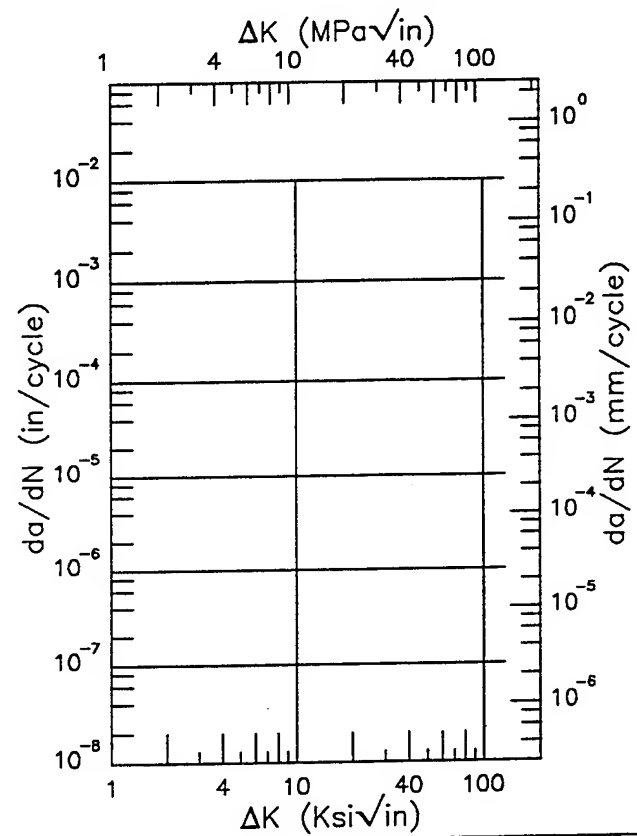
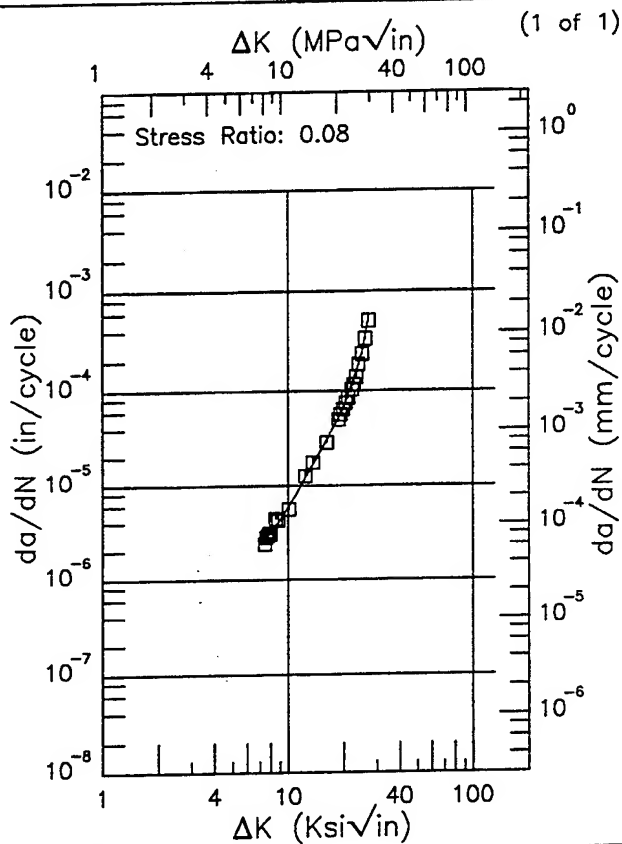
Figure 8.9.3.1.104

R

7075

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 61 ksi
 Ult. Strength: 72 ksi
 Specimen Thk: 0.48 in.
 Specimen Width: 7.4 in.
 Ref: 88579



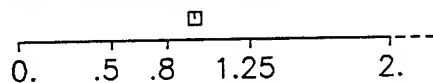
ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
7.42 (min)	2.64
8.	3.15
9.	4.32
10.	5.95
13.	14.5
16.	30.1
20.	66.7
25.	246.
26.97 (max)	501.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS %
Error

7.10

Life Prediction Ratio Summary



RMS %
Error

Life Prediction Ratio Summary

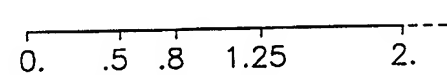


Figure 8.9.3.1.105

Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 61 ksi
 Ult. Strength: 72 ksi
 Specimen Thk: 1 in.
 Specimen Width: 7.4 in.
 Ref: 88579

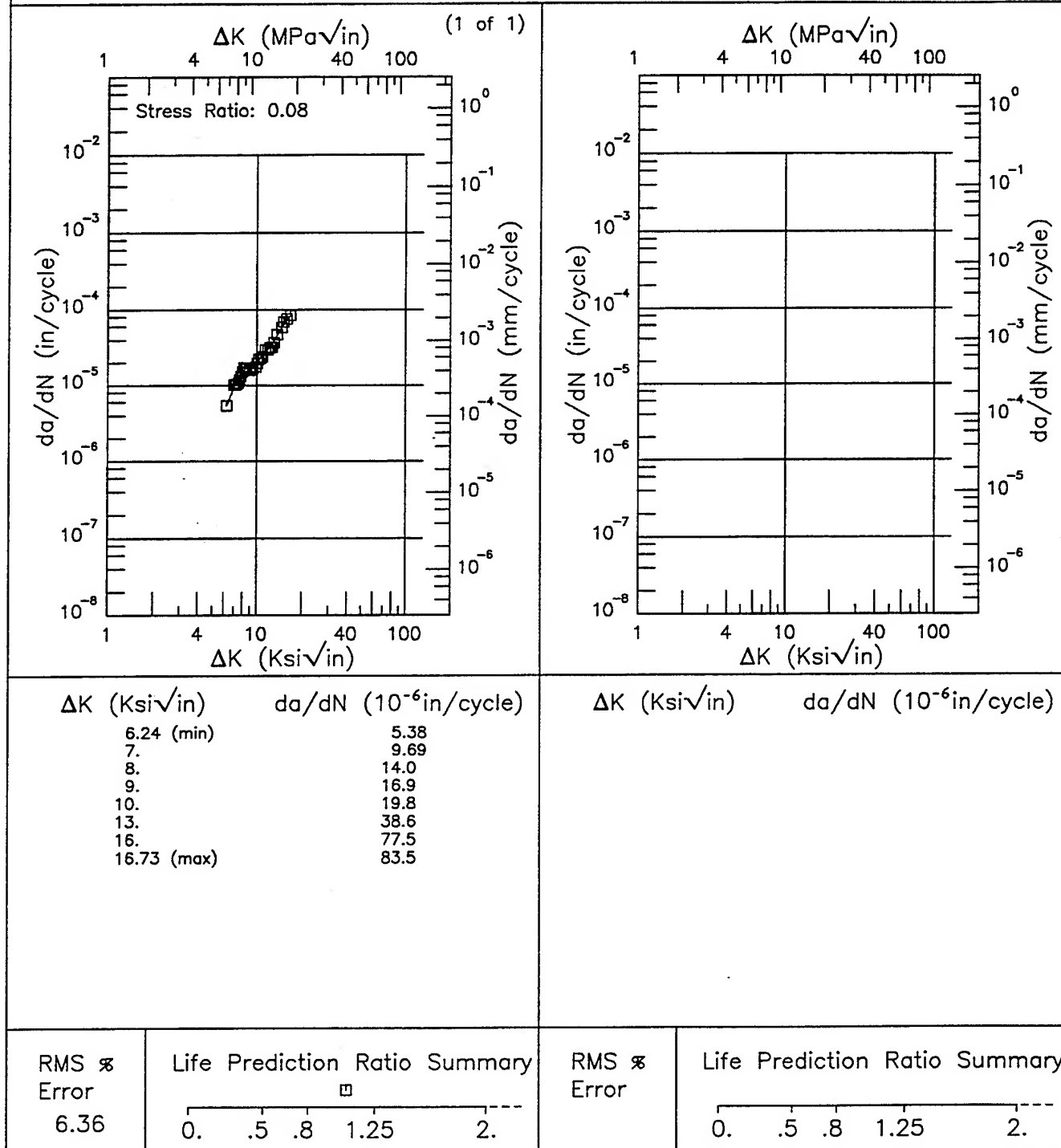
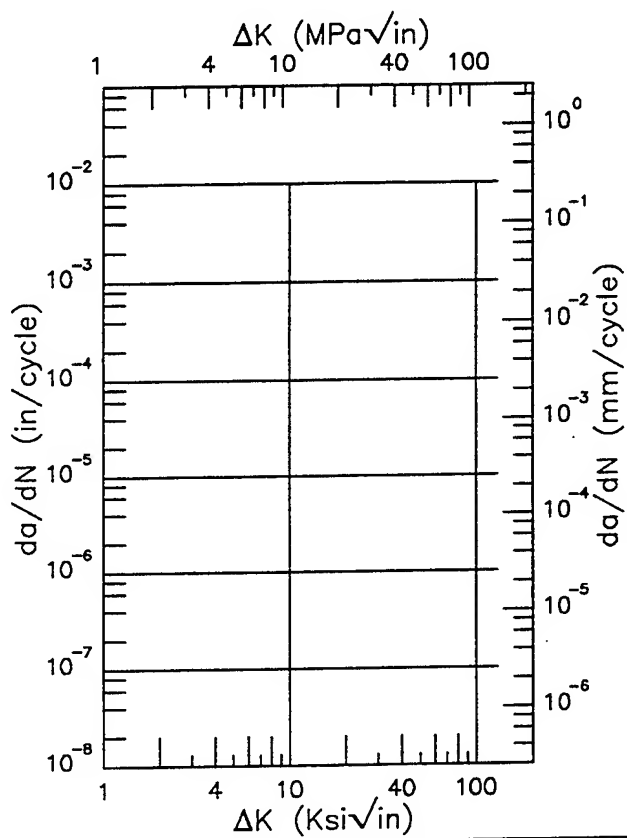
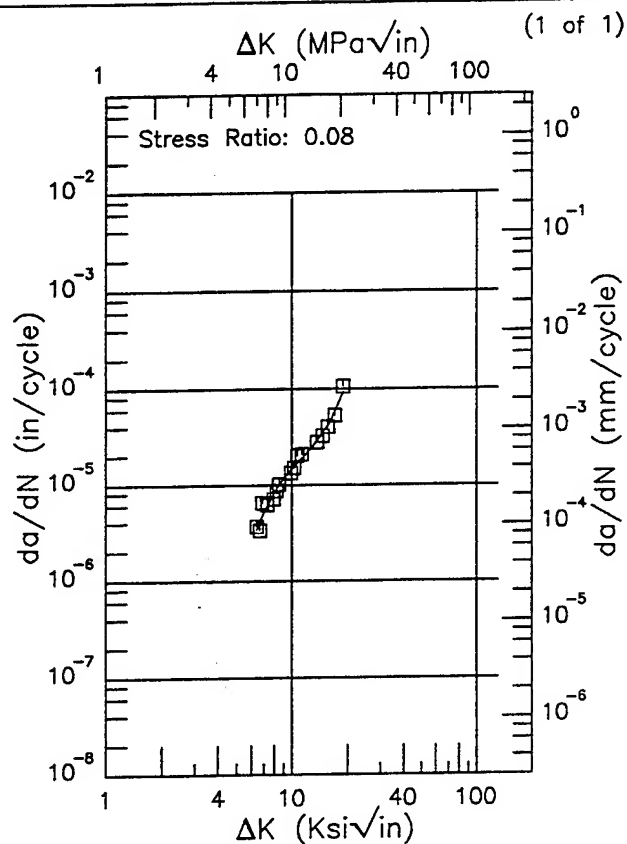


Figure 8.9.3.1.106

R 7075
 Condition/Ht: T73511
 Form: Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 61 ksi
 Ult. Strength: 72 ksi
 Specimen Thk: 1 in.
 Specimen Width: 6 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.42 (min)	3.39
7.	5.16
8.	8.47
9.	11.7
10.	14.8
13.	25.1
16.	45.4
18.79 (max)	92.3

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 12.95

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.107

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 68.6 ksi
 Ult. Strength: 77.7 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

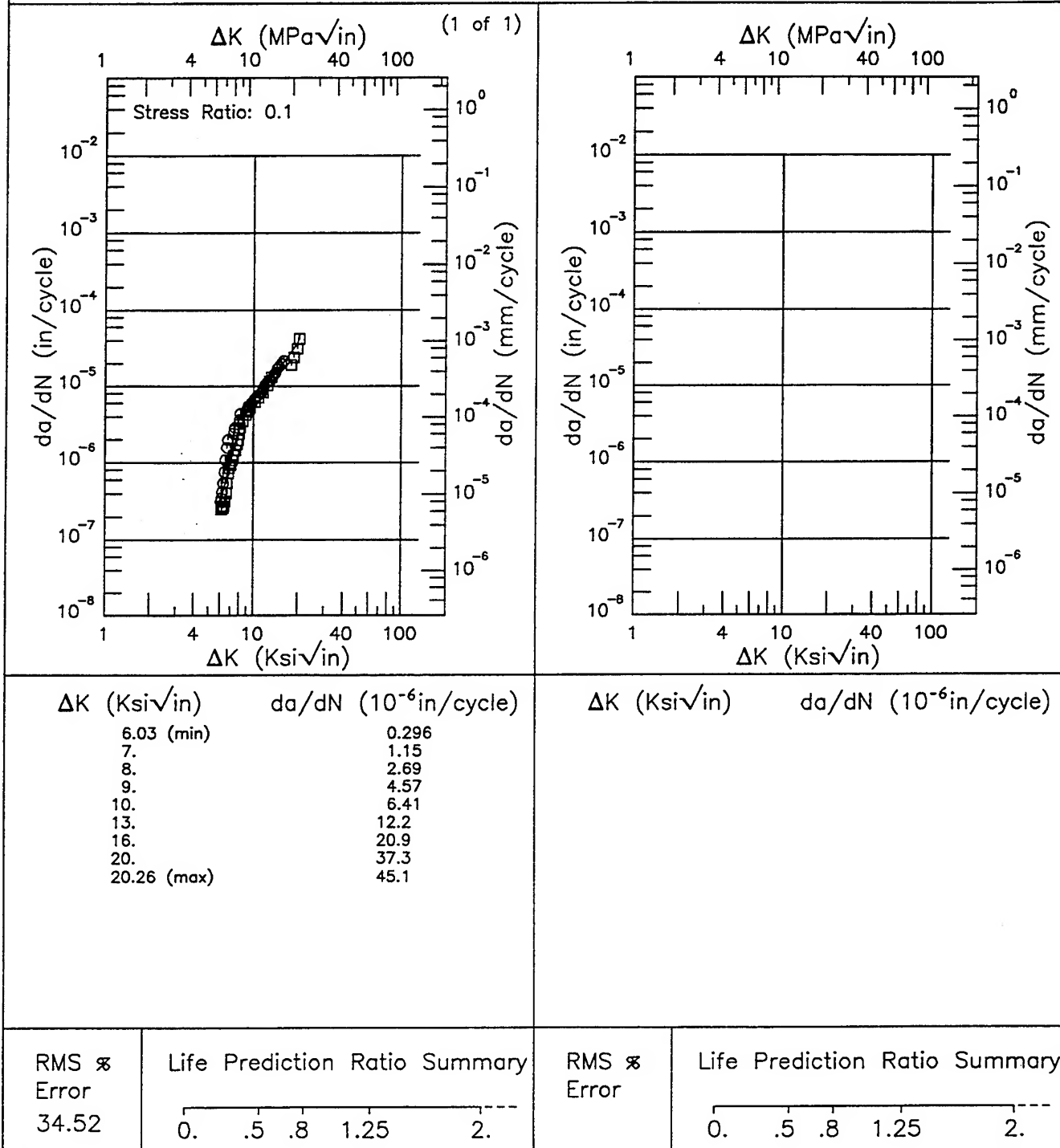


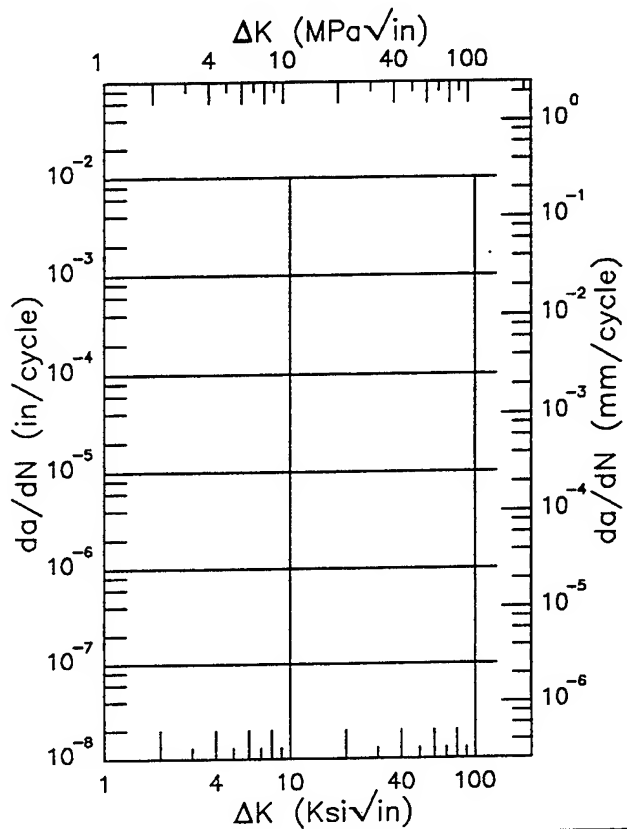
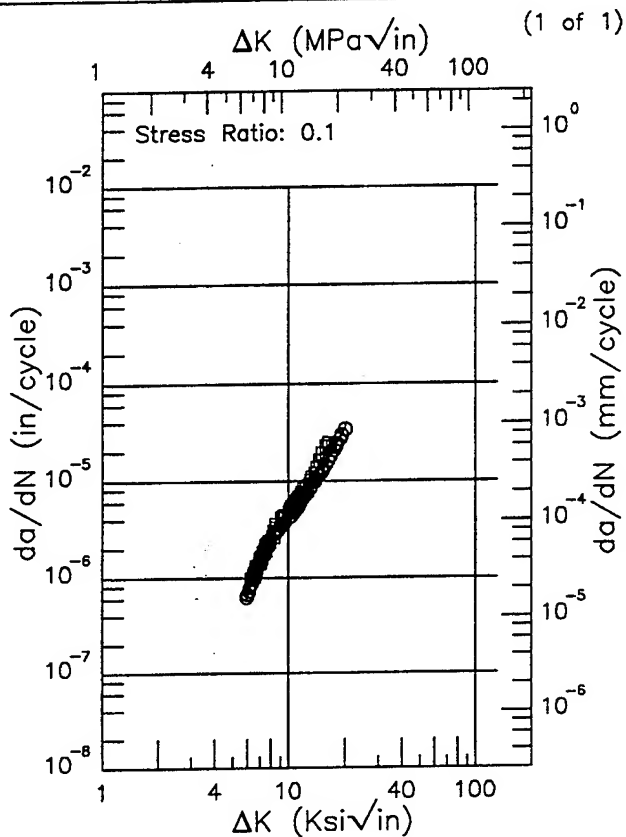
Figure 8.9.3.1.108

R

7075

Condition/Ht: T73511-HIGH PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 63 ksi
 Ult. Strength: 73.1 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.92 (min)	0.598
6.	0.656
7.	1.54
8.	2.51
9.	3.47
10.	4.47
13.	8.94
16.	17.4
20.	34.5
20.01 (max)	34.6

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
---------------------	-------------------------------

RMS %
 Error
 9.00

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.109

Condition/Ht: T73511-LOW PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 65.3 ksi
 Ult. Strength: 73.9 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

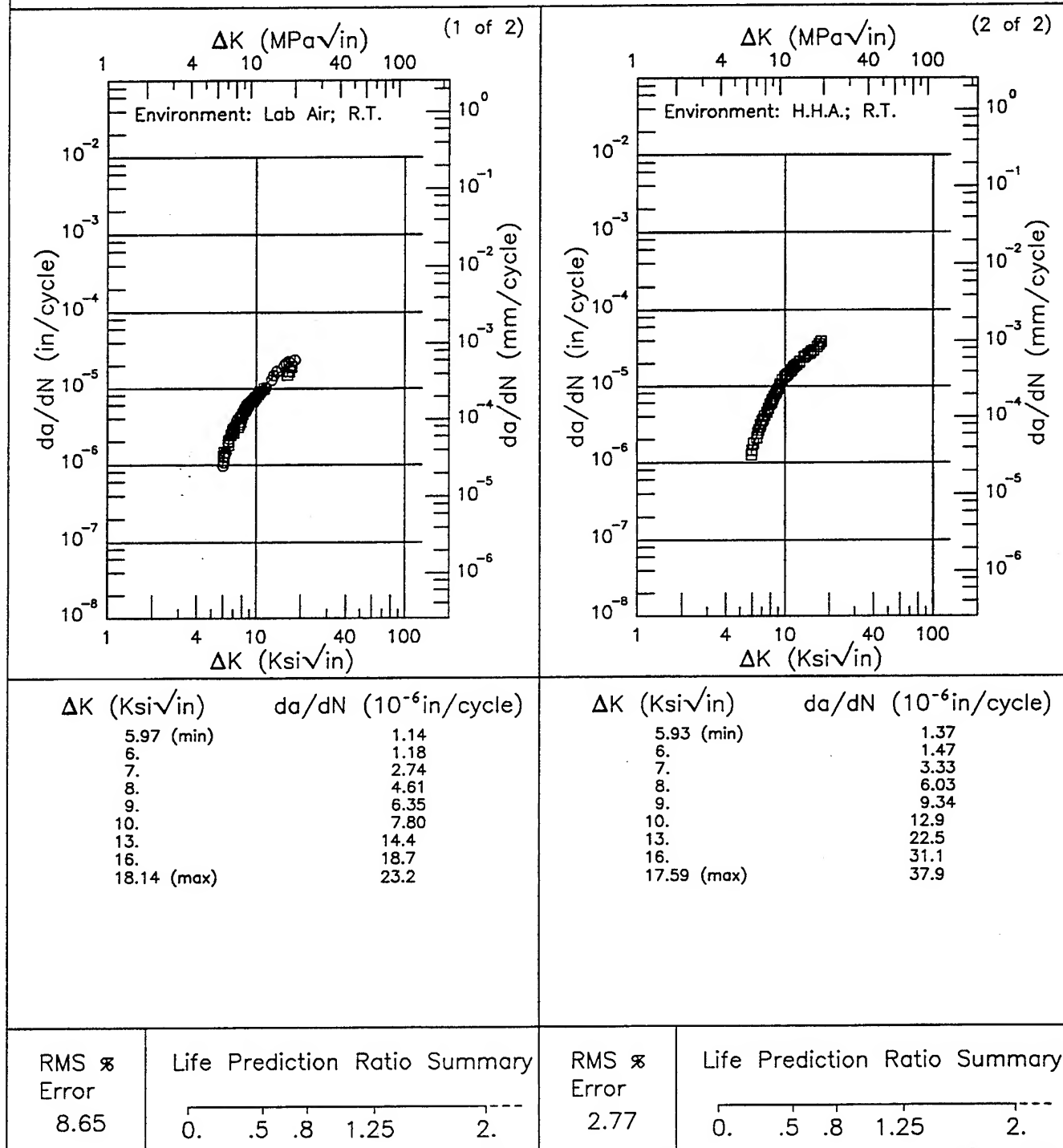


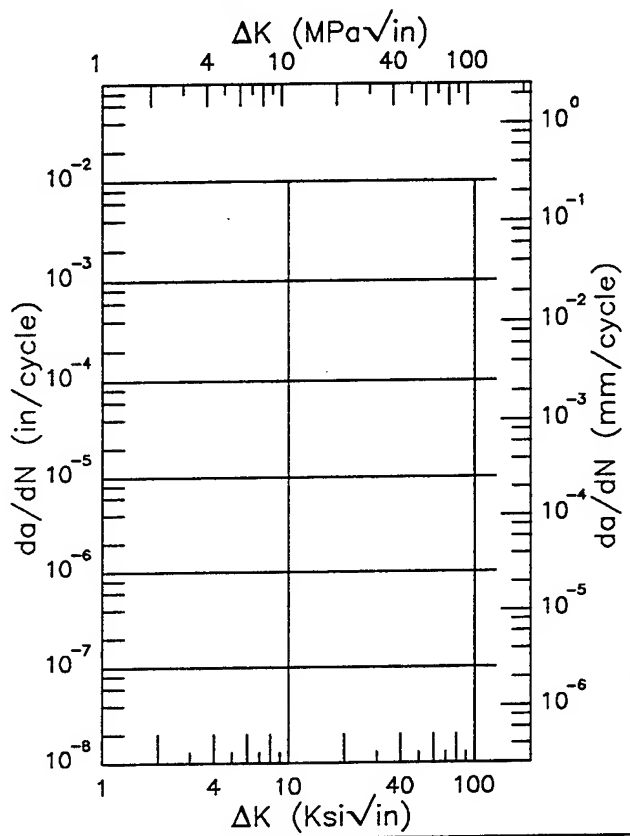
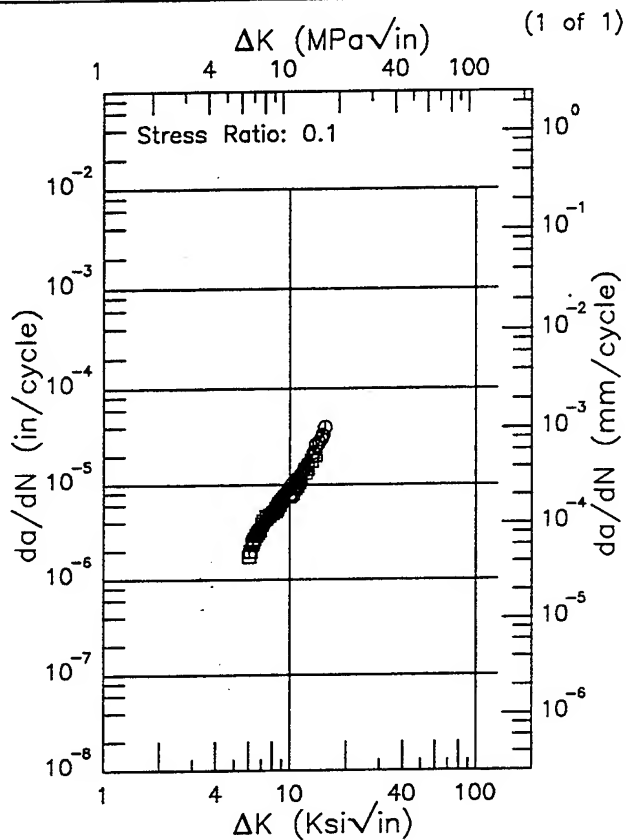
Figure 8.9.3.1.110

R

7075

Condition/Ht: T73511-LOW PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 60.9 ksi
 Ult. Strength: 70.2 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
6.02 (min)	1.92
7.	3.55
8.	5.15
9.	6.74
10.	8.52
13.	18.5
15.36 (max)	38.0

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10⁻⁶in/cycle)

RMS %
Error
6.92

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2. ---

Figure 8.9.3.1.111

Condition/Ht: T73511-MEDIUM PURITY
 Form: 1.5 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.1
 Frequency: 30 Hz

Yield Strength: 68.4 ksi
 Ult. Strength: 77 ksi
 Specimen Thk: 0.625 in.
 Specimen Width: 2.55 in.
 Ref: WA001

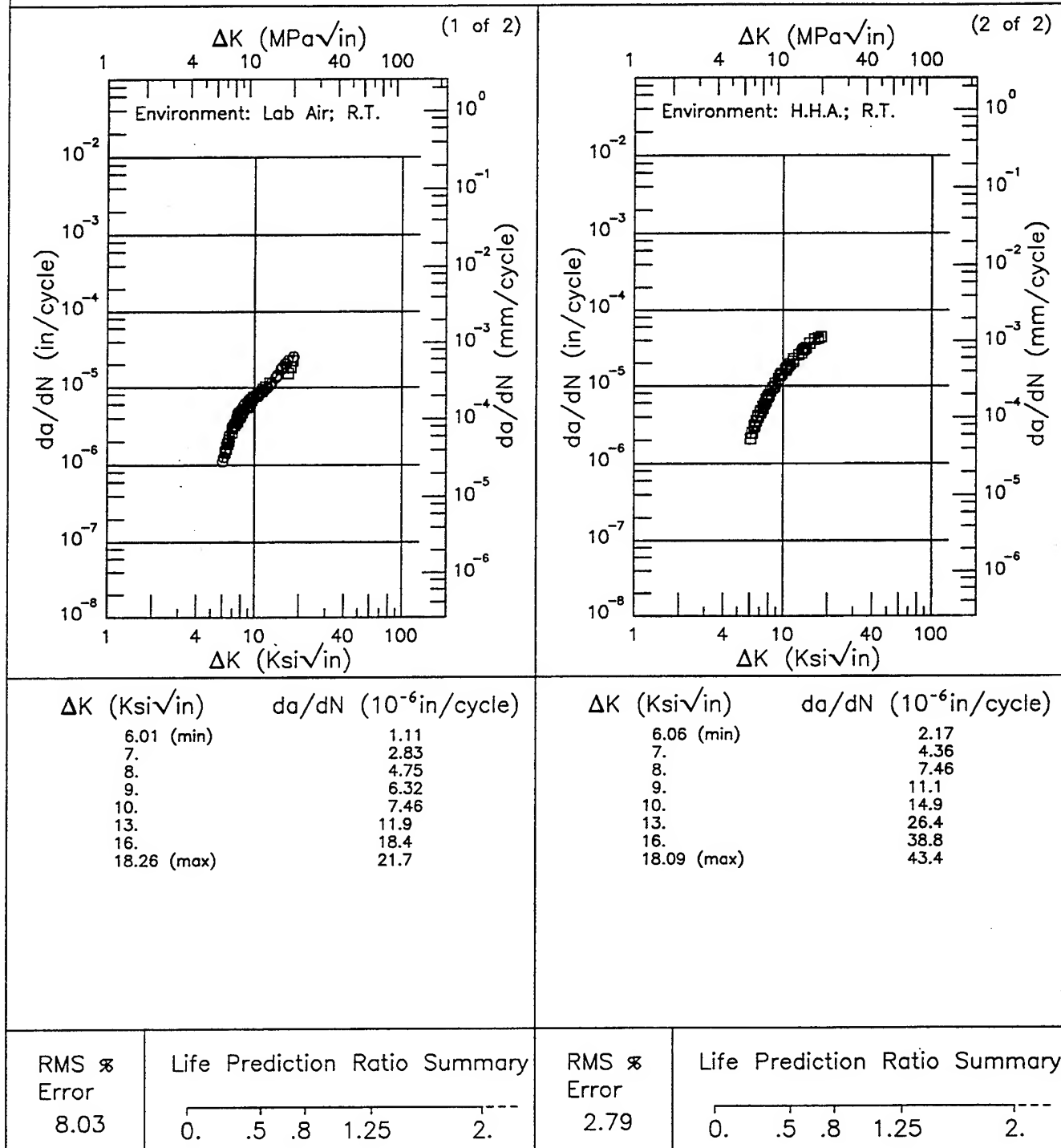


Figure 8.9.3.1.112

R

7075

Condition/Ht: T7352

Form: 2.2 in. Plate

Specimen Type: CCP (max stress specified)

Orientation: T-L

Frequency:

Environment: LAB AIR; RT

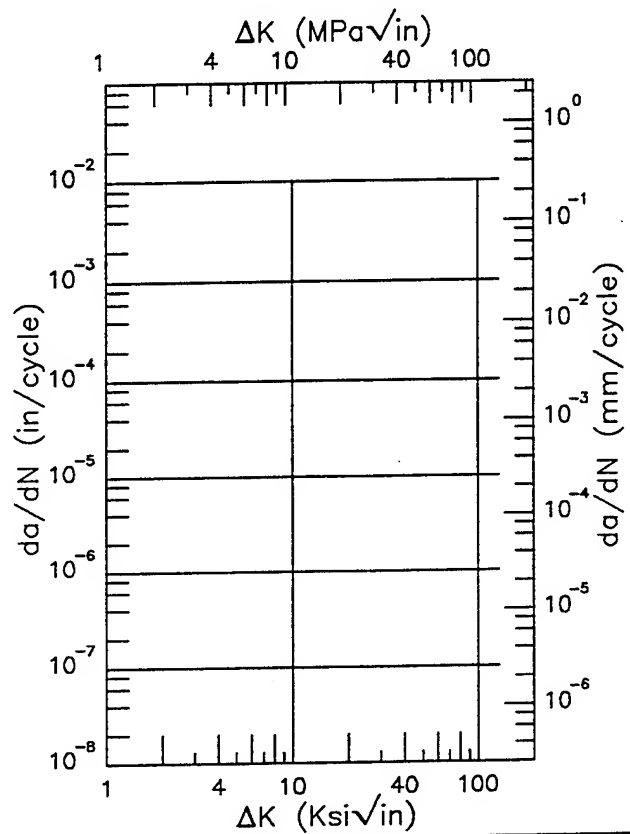
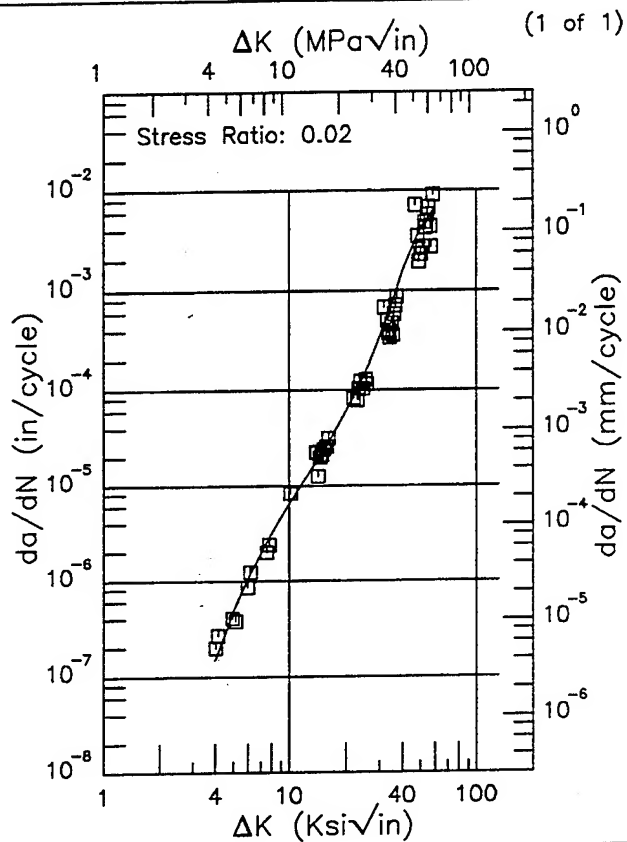
Yield Strength: 55 ksi

Ult. Strength: 66 ksi

Specimen Thk: 0.156 in.

Specimen Width:

Ref: MA012



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.00 (min)	0.149
5.	0.477
6.	1.07
7.	1.94
8.	3.12
9.	4.61
10.	6.44
13.	14.5
16.	27.8
20.	60.0
25.	145.
30.	336.
35.	751.
40.	1528.
50.	4143.
58.14 (max)	6102.

ΔK (Ksi√in) da/dN (10⁻⁶ in/cycle)

RMS %
Error
34.94

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.113

Condition/Ht: T7352
 Form: 2.2 in. Plate
 Specimen Type: WOL
 Orientation: T-L
 Frequency:
 Environment: LAB AIR; RT

Yield Strength: 55 ksi
 Ult. Strength: 66 ksi
 Specimen Thk: 1.25 in.
 Specimen Width:
 Ref: MA012

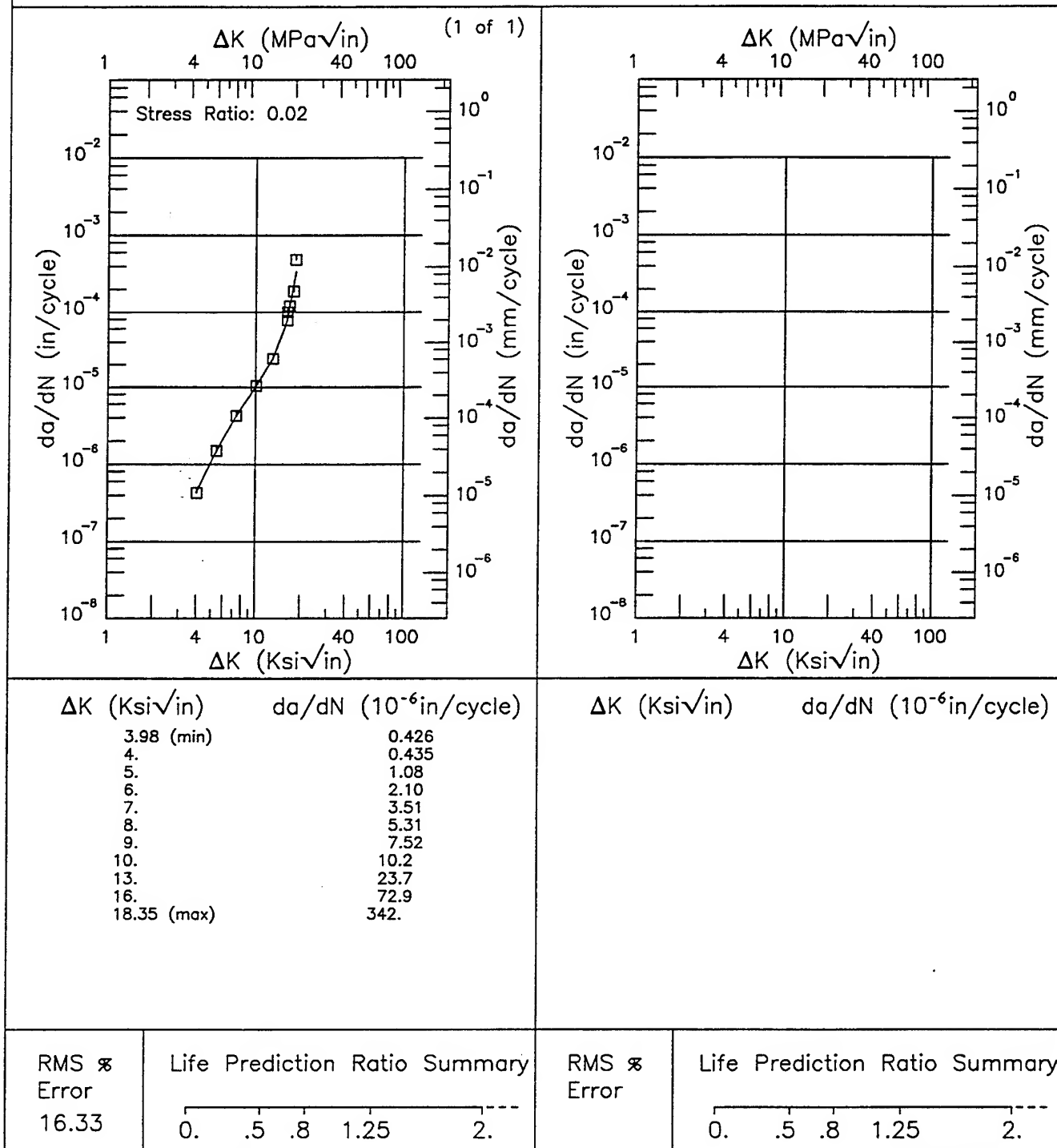


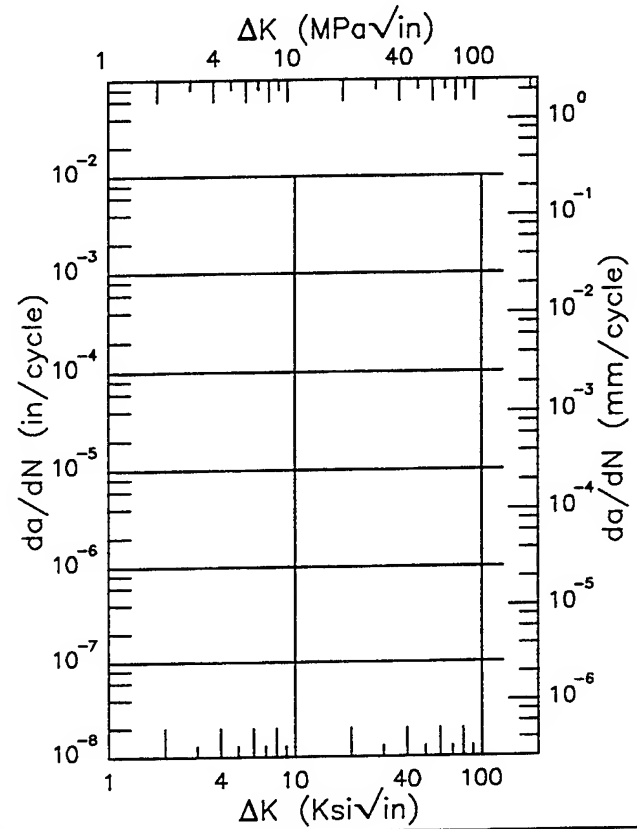
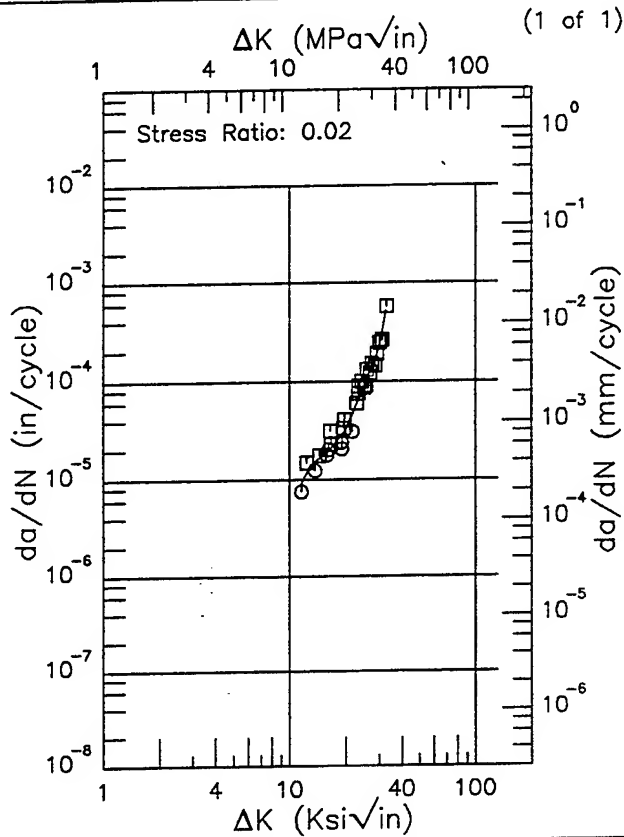
Figure 8.9.3.1.114

R

7075

Condition/Ht: T7352
 Form: 2.35 in. Billet
 Specimen Type: WOL
 Orientation: L-T
 Frequency: 1 - 30 Hz
 Environment: LAB AIR; RT

Yield Strength: 54.5 ksi
 Ult. Strength: 65.5 ksi
 Specimen Thk: 1.25 in.
 Specimen Width: 5 in.
 Ref: MA011



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
11.52 (min)	8.94
13.	14.2
16.	19.2
20.	32.8
25.	92.6
30.	223.
32.74 (max)	519.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
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RMS %
 Error
 20.37

Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

RMS %
 Error

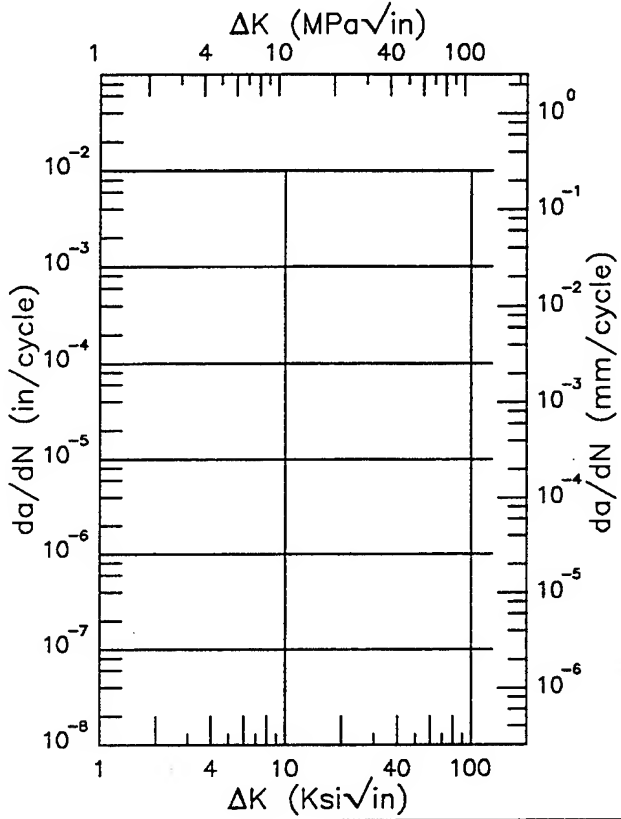
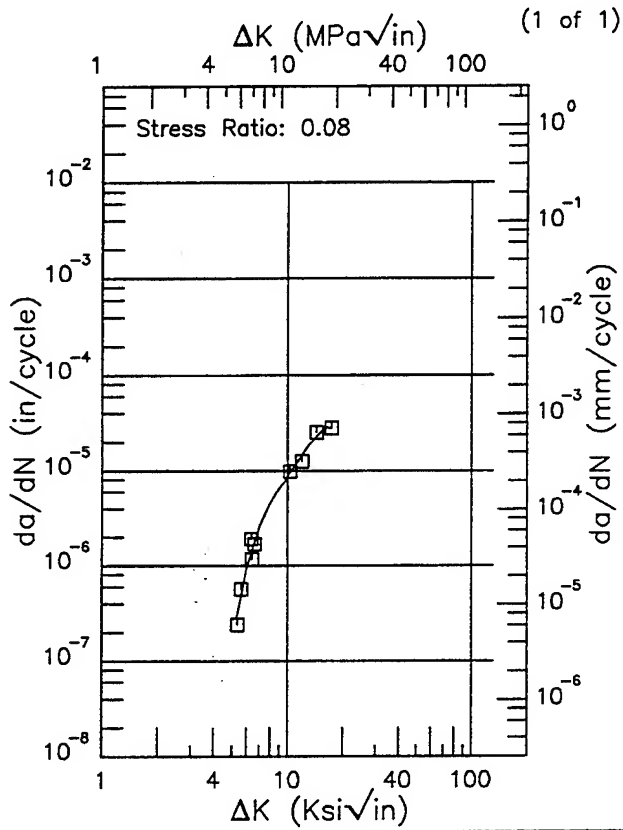
Life Prediction Ratio Summary

0. .5 .8 1.25 2.---

Figure 8.9.3.1.115

Condition/Ht: T7352
 Form: Forging
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 67 ksi
 Ult. Strength: 75 ksi
 Specimen Thk: 0.5 in.
 Specimen Width: 3 in.
 Ref: 88579



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.33 (min)	0.293
6.	0.915
7.	2.54
8.	4.54
9.	6.56
10.	8.65
13.	18.6
16.	28.5
17.25 (max)	27.9

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS %
 Error
 18.66

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

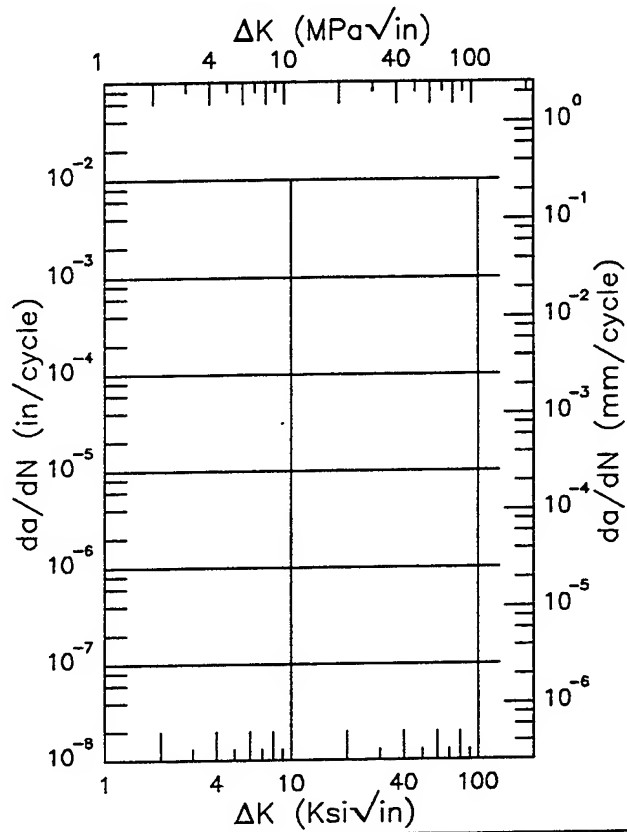
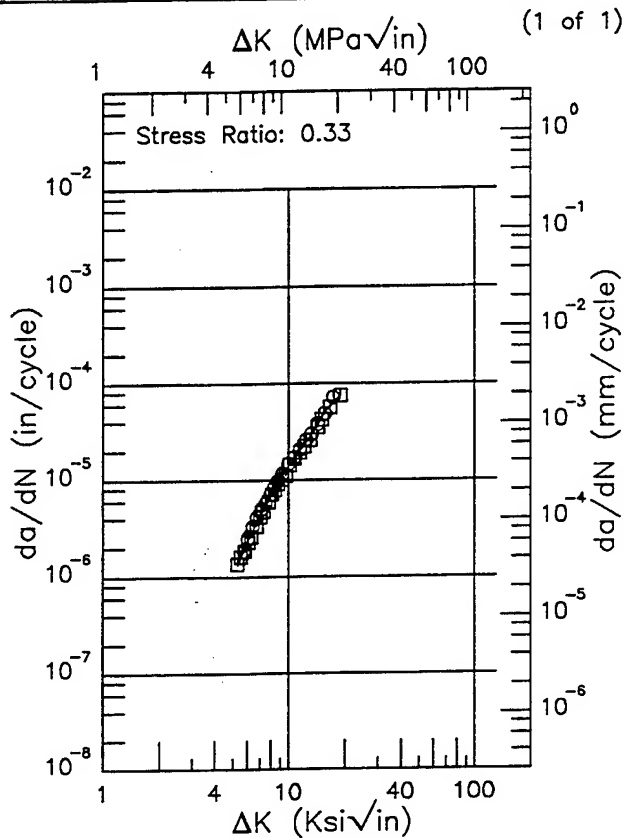
 0. .5 .8 1.25 2.

Figure 8.9.3.1.116

R 7075

Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.75 in.
 Specimen Width: 3 in.
 Ref: 77720



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
5.32 (min)	1.32
6.	2.25
7.	4.21
8.	6.86
9.	10.1
10.	13.7
13.	27.6
16.	54.0
18.81 (max)	74.9

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS %
 Error
 5.96

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

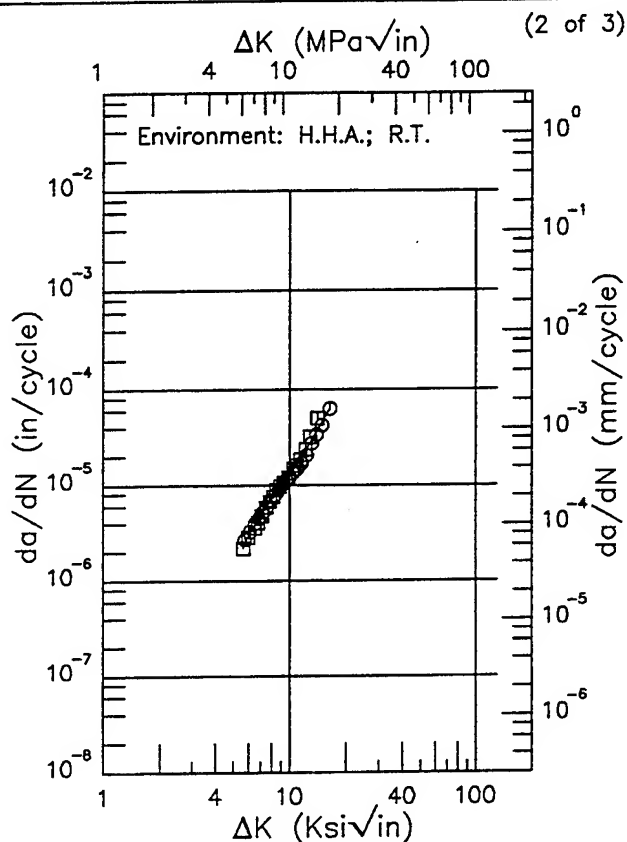
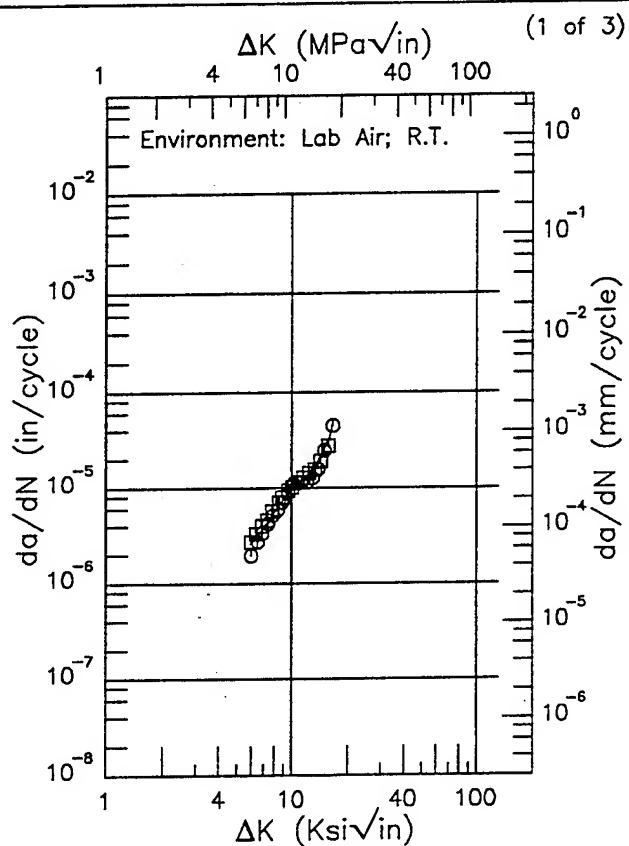
 0. .5 .8 1.25 2.

Figure 8.9.3.1.117

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E 7075
 Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: T-S
 Stress Ratio: 0.33
 Frequency: 5.2 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.73 - 0.75 in.
 Specimen Width: 3 in.
 Ref: 77720



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
5.97 (min)	2.60
6.	2.63
7.	3.82
8.	5.53
9.	7.61
10.	9.75
13.	14.2
16.	34.2
16.54 (max)	45.6

ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
5.62 (min)	2.29
6.	2.94
7.	4.85
8.	7.00
9.	9.48
10.	12.5
13.	28.3
16.	57.4
16.40 (max)	62.2

RMS %
 Error
 9.03

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 8.11

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.118

Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: T-S
 Stress Ratio: 0.33
 Frequency: 5.2 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.73 - 0.75 in.
 Specimen Width: 3 in.
 Ref: 77720

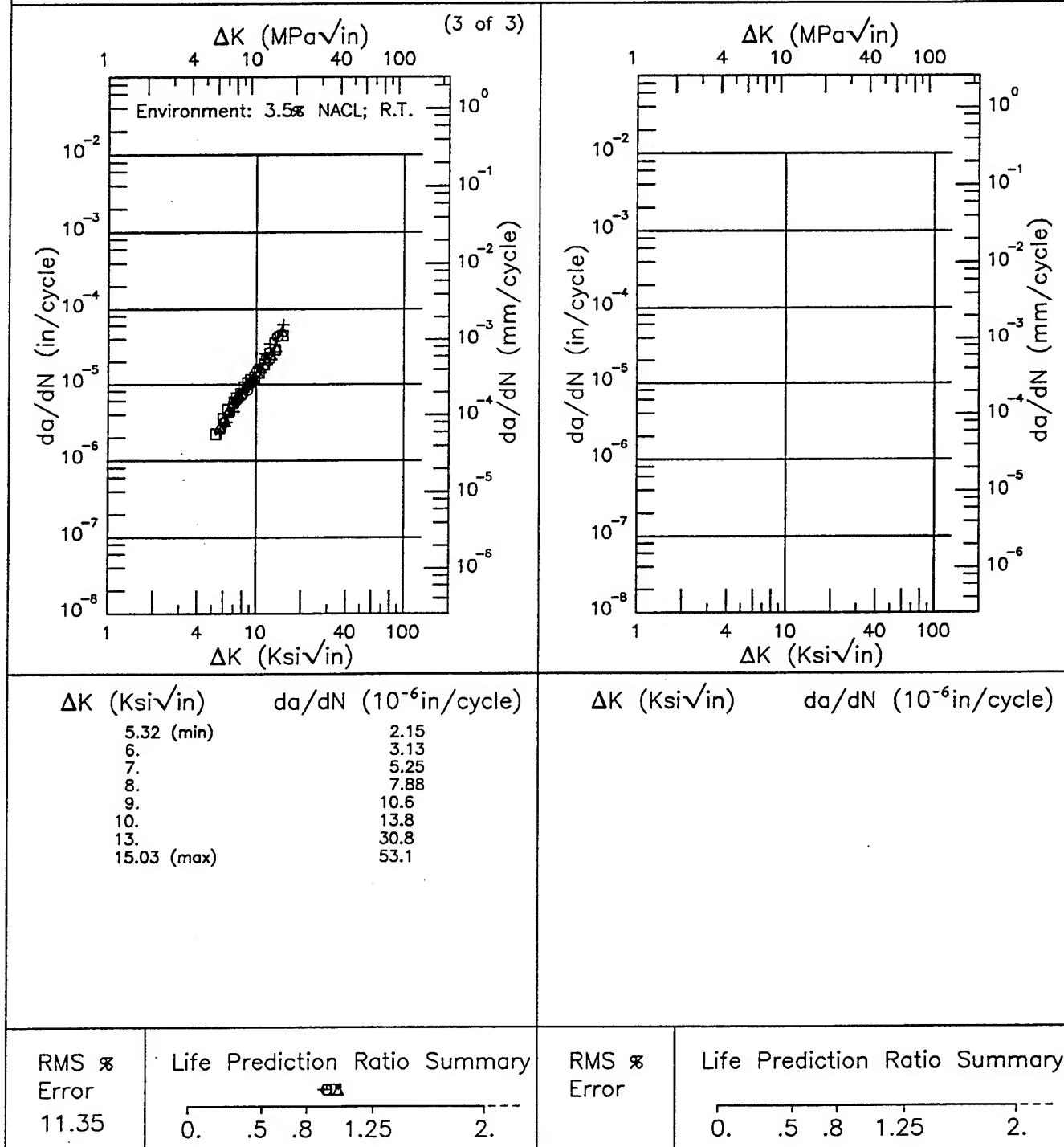
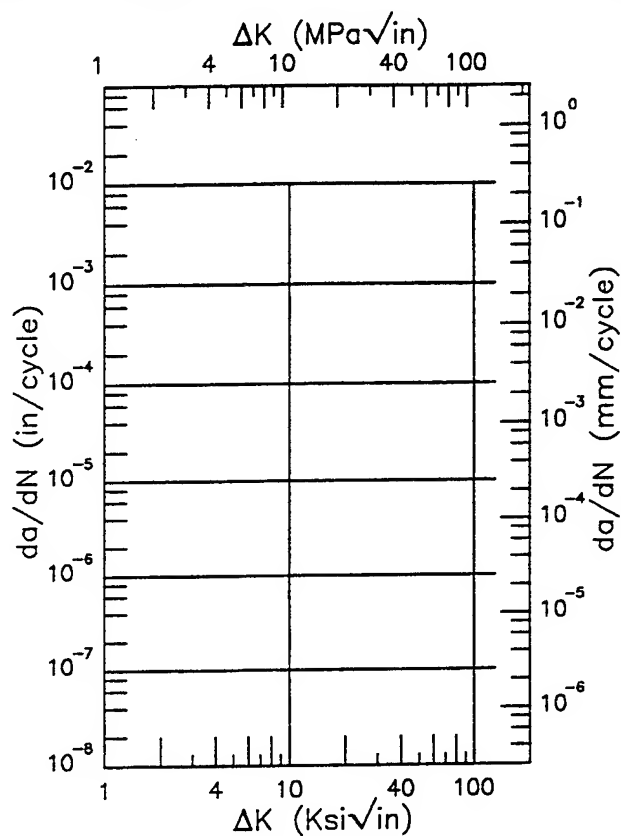
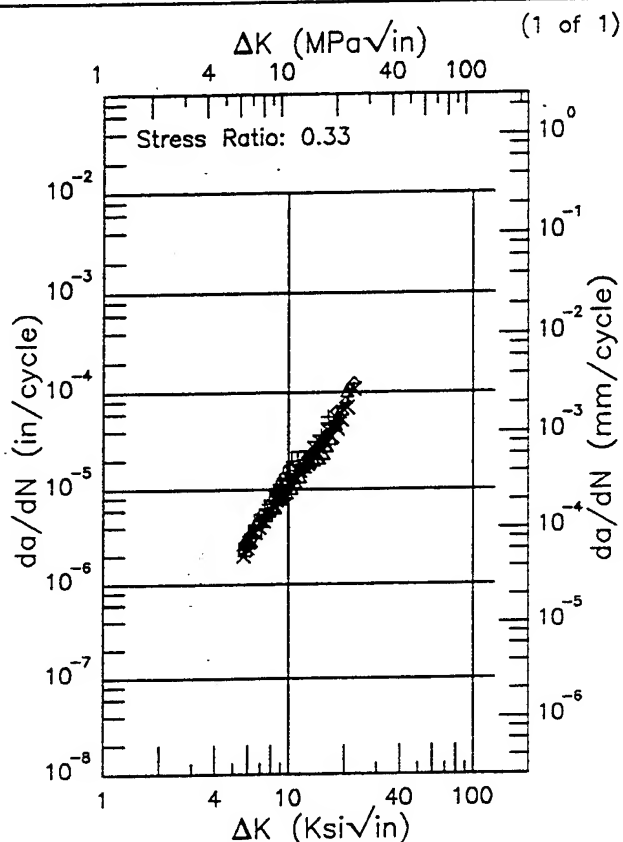


Figure 8.9.3.1.118 (Concluded)

R 7075

Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: T-L
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.75 - 0.76 in.
 Specimen Width: 3 in.
 Ref: 77720



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.69 (min)	2.17
6.	2.62
7.	4.34
8.	6.43
9.	8.80
10.	11.4
13.	20.4
16.	34.0
20.	65.5
22.72 (max)	125.

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS %
 Error
 13.41

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error

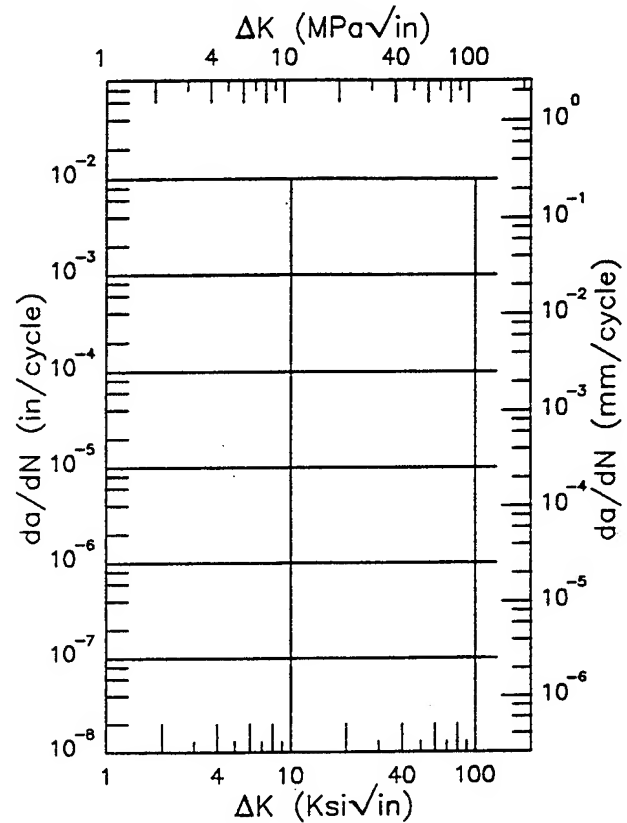
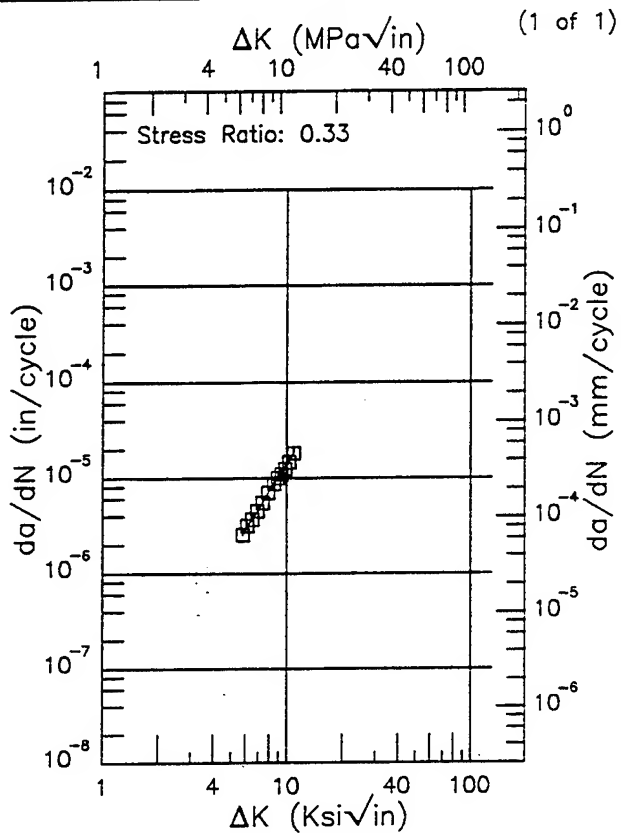
Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.119

Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: S-T
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.75 in.
 Specimen Width: 3 in.
 Ref: 77720

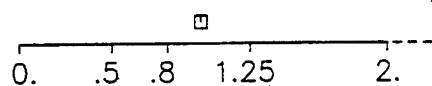


ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
5.78 (min)	2.52
6.	2.89
7.	4.56
8.	7.23
9.	10.0
10.	13.3
10.85 (max)	18.0

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
--------------------------------------	-------------------------------

RMS \propto
 Error
 1.20

Life Prediction Ratio Summary



RMS \propto
 Error

Life Prediction Ratio Summary

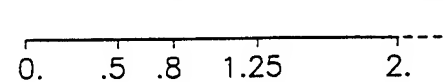


Figure 8.9.3.1.120

R | 7075 |
 Condition/Ht: T7352
 Form: 6 in. Forging
 Specimen Type: CCP (max load specified)
 Orientation: S-L
 Frequency: 5.2 Hz
 Environment: LAB AIR; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.75 in.
 Specimen Width: 3 in.
 Ref: 77720

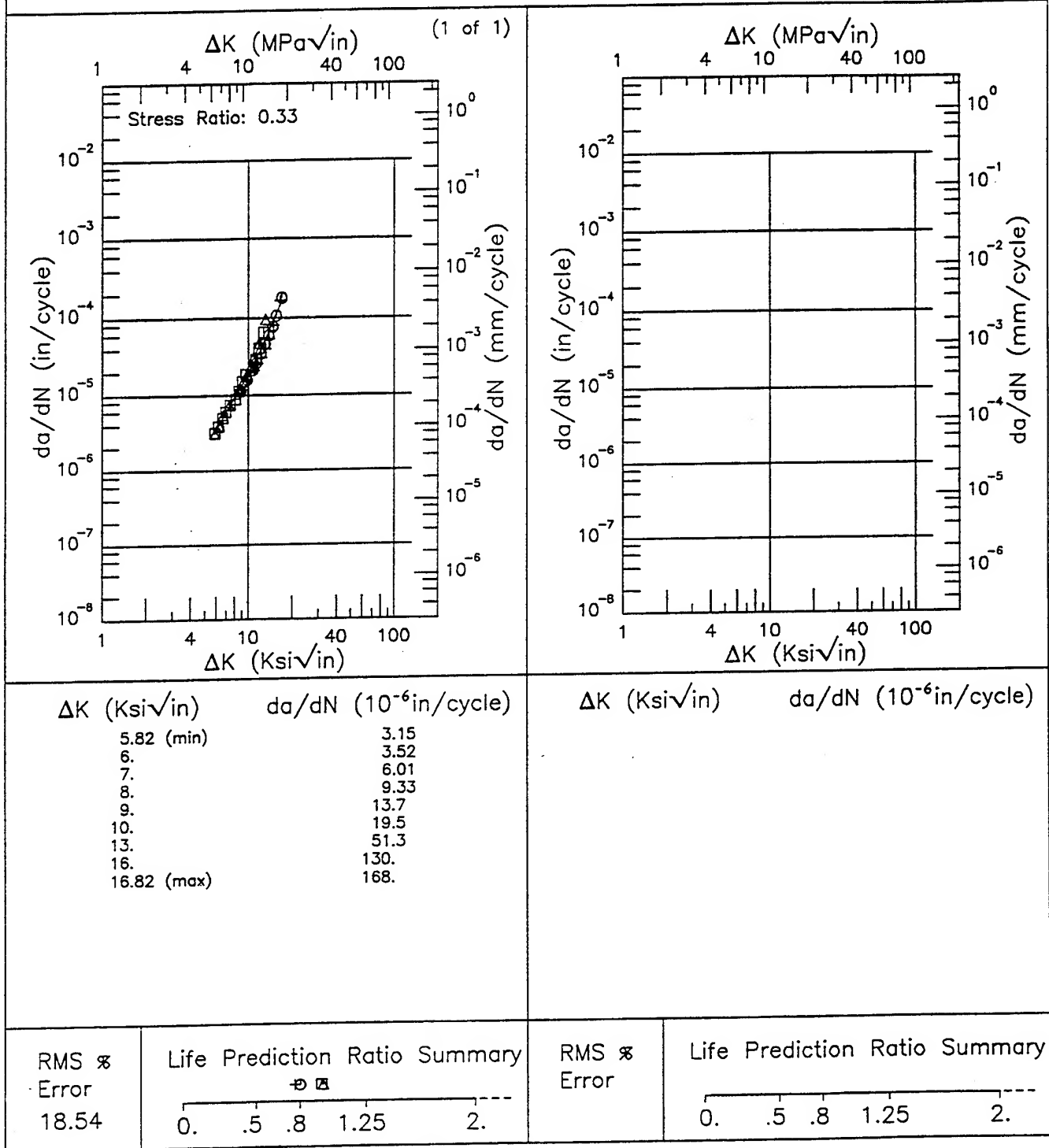


Figure 8.9.3.1.121
 8-702

Condition/Ht: T7352

Form: Forging

Specimen Type: CCP (max stress specified)

Orientation: T-L

Frequency:

Environment: LAB AIR; RT

Yield Strength: 57 ksi

Ult. Strength: 70 ksi

Specimen Thk: 0.149 in.

Specimen Width:

Ref: MA012

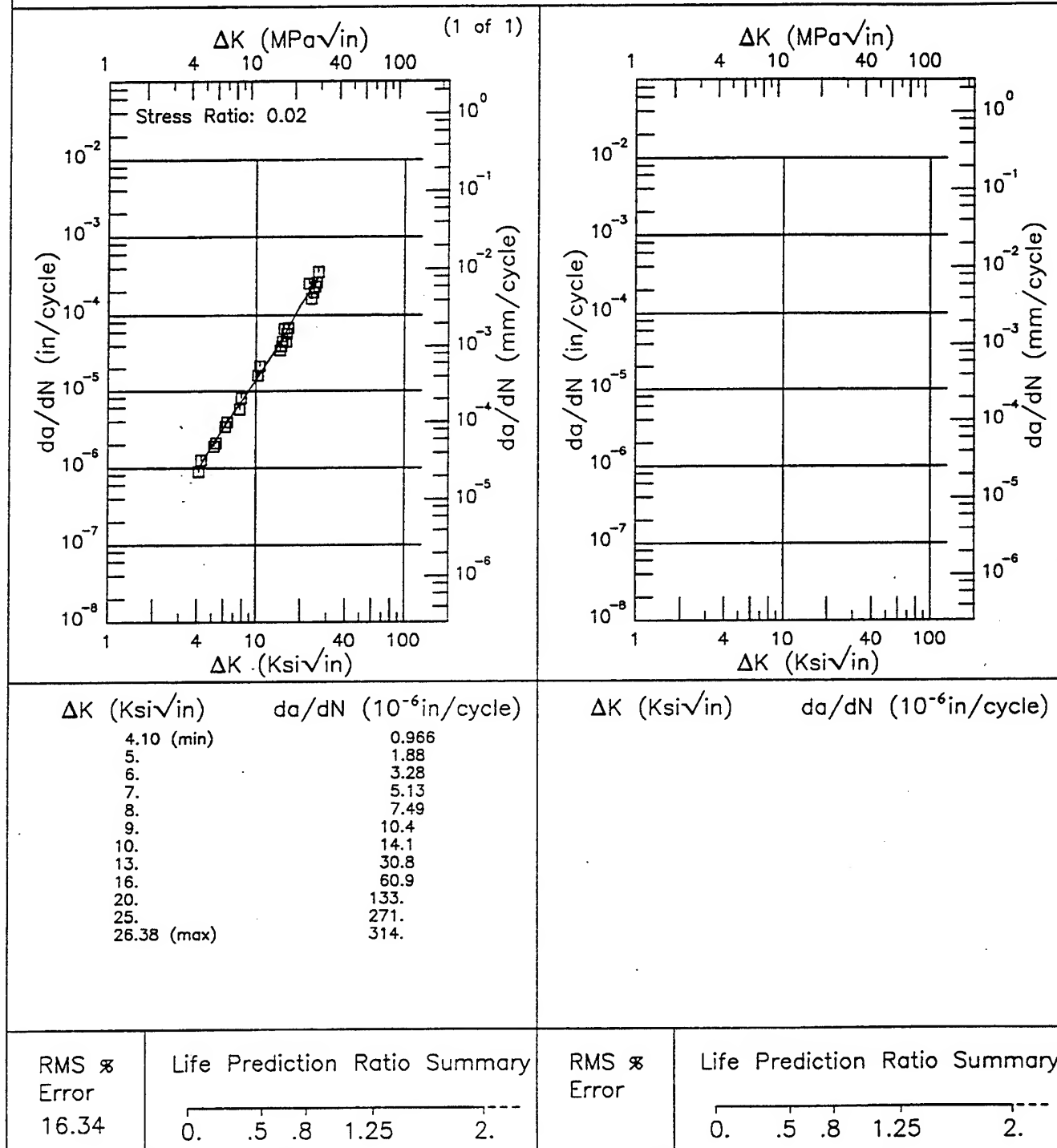


Figure 8.9.3.1.122

R

7075

Condition/Ht: T7352

Form: Forging

Specimen Type: WOL

Orientation: T-L

Frequency:

Environment: LAB AIR; RT

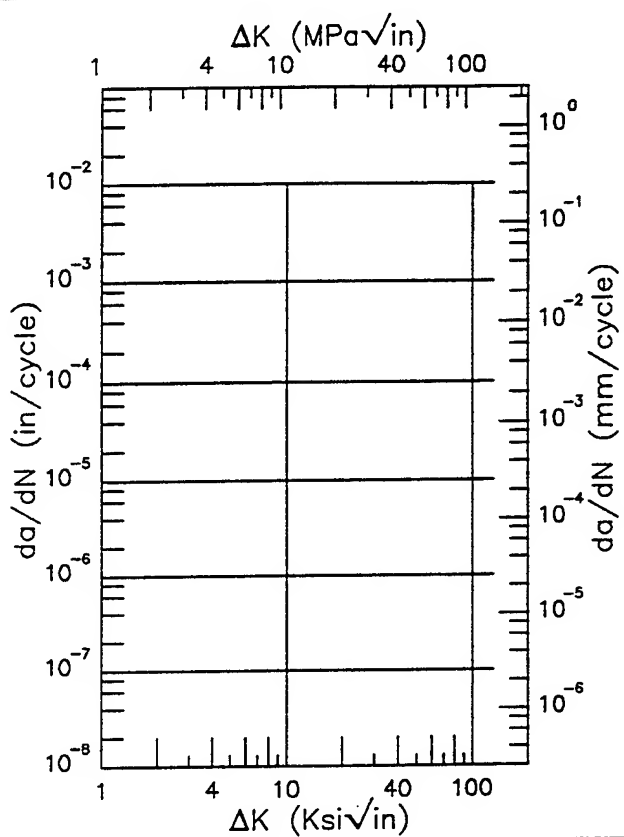
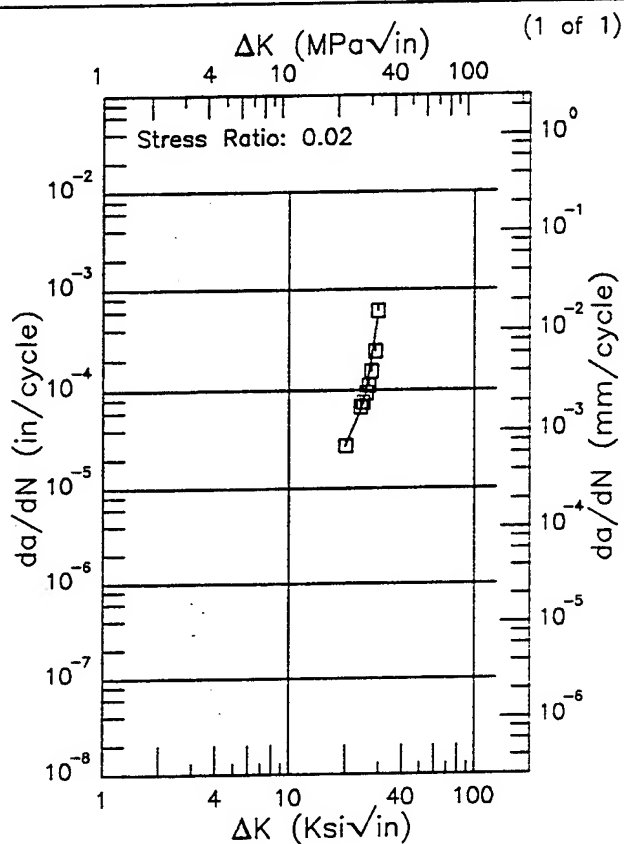
Yield Strength: 57 ksi

Ult. Strength: 70 ksi

Specimen Thk: 1.25 in.

Specimen Width:

Ref: MA012



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
19.98 (min)	27.2
20.	27.5
25.	77.4
29.54 (max)	509.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10 ⁻⁶ in/cycle)
--------------------------------------	-----------------------------------

RMS $\%$
Error
20.55

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS $\%$
Error

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.123

Condition/Ht: T74
 Form:
 Specimen Type: CT
 Orientation: L-T
 Frequency: 20 Hz
 Environment: LAB AIR; RT

Yield Strength: 61.9 ksi
 Ult. Strength:
 Specimen Thk: 0.498 in.
 Specimen Width: 2 in.
 Ref: SW001

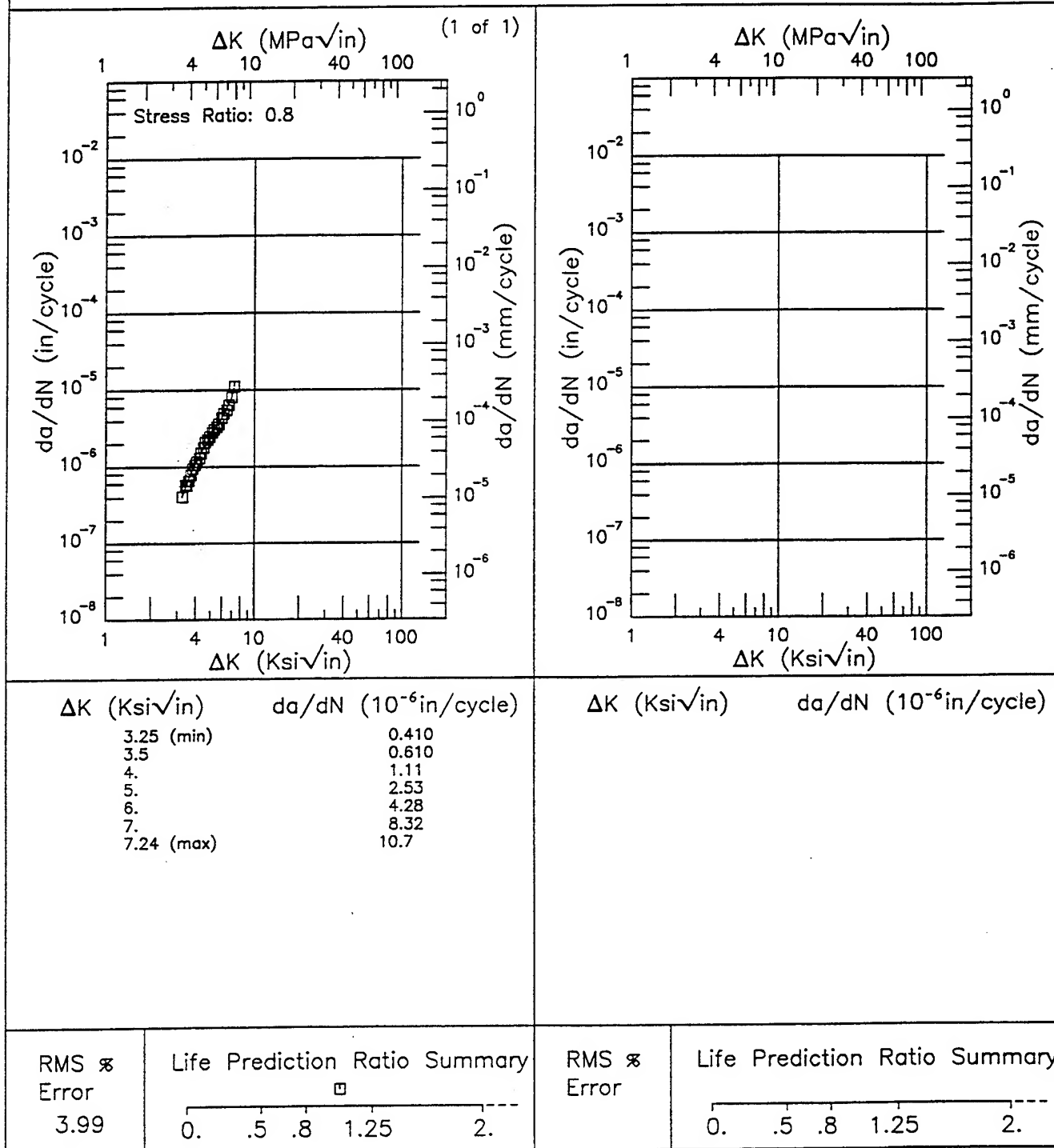


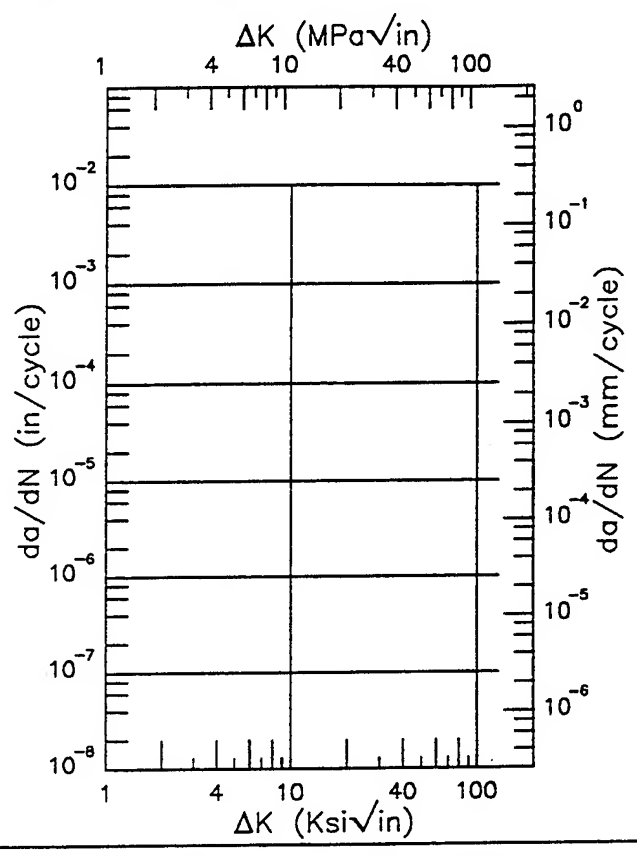
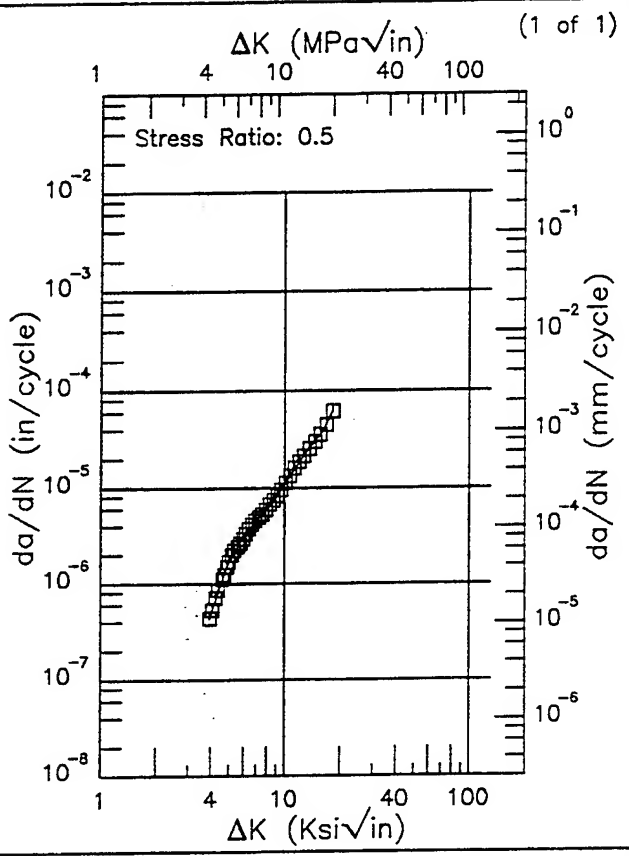
Figure 8.9.3.1.124

R

7075

Condition/Ht: T74511
 Form: 1 in. Extrusion
 Specimen Type: CT
 Orientation: L-T
 Frequency: 0.5 Hz
 Environment: LAB AIR; RT

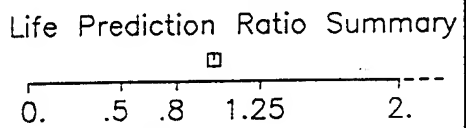
Yield Strength: 77 ksi
 Ult. Strength:
 Specimen Thk: 0.323 in.
 Specimen Width: 2 in.
 Ref: SW001



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.94 (min)	0.431
4.	0.477
5.	1.65
6.	3.08
7.	4.50
8.	6.06
9.	8.09
10.	10.9
13.	22.9
16.	38.1
18.20 (max)	61.6

ΔK (Ksi $\sqrt{\text{in}}$) da/dN (10^{-6} in/cycle)

RMS \times
 Error
 3.34



RMS \times
 Error

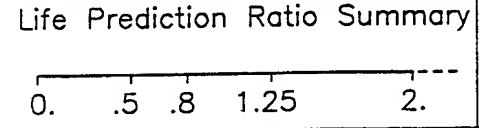


Figure 8.9.3.1.125

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E

7075

Condition/Ht: T76
 Form: 0.1 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.099 in.
 Specimen Width: 23.8 - 23.85 in.
 Ref: 86575

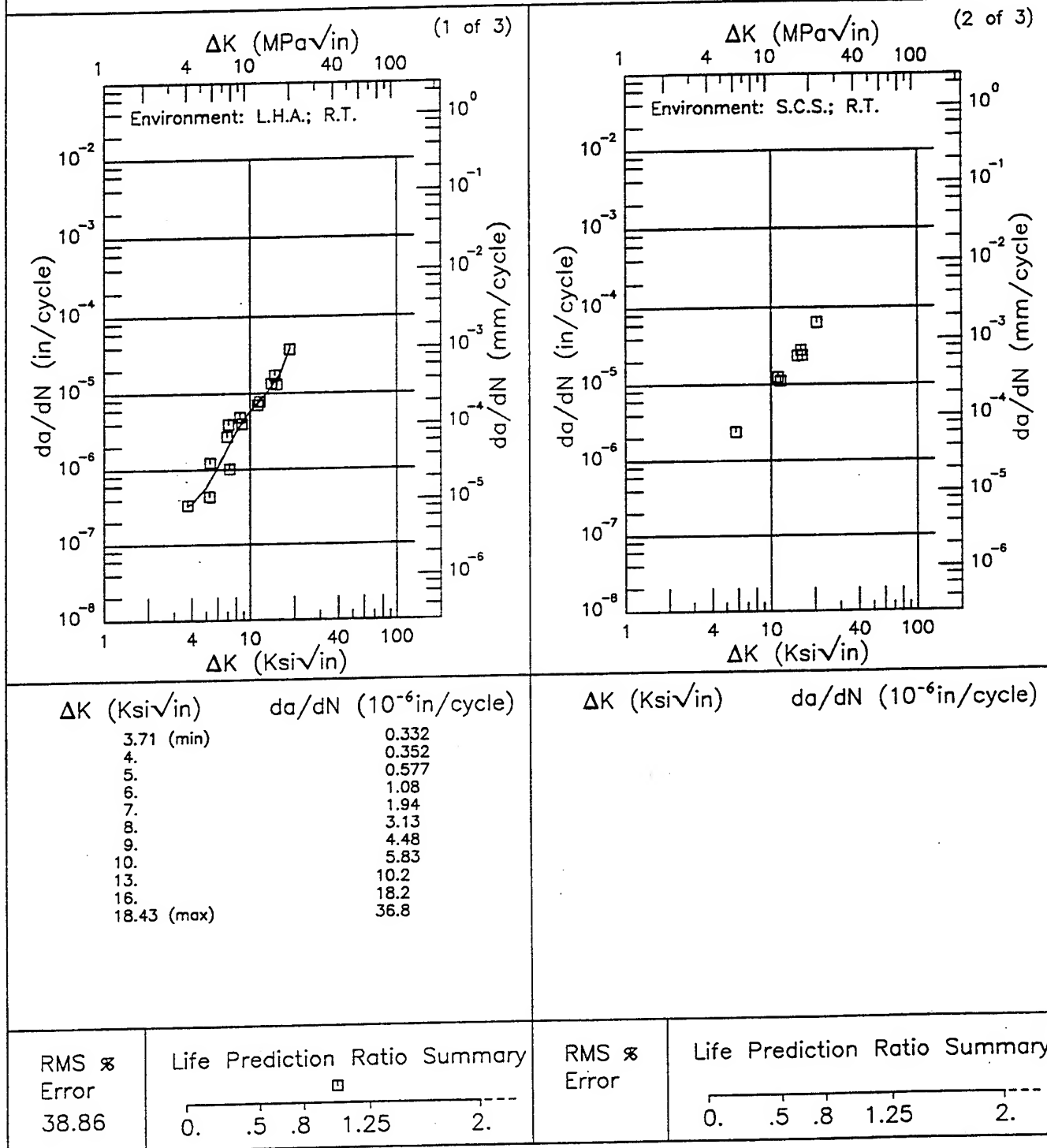


Figure 8.9.3.1.126

Condition/Ht: T76
 Form: 0.1 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 1 Hz

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.099 in.
 Specimen Width: 23.8 - 23.85 in.
 Ref: 86575

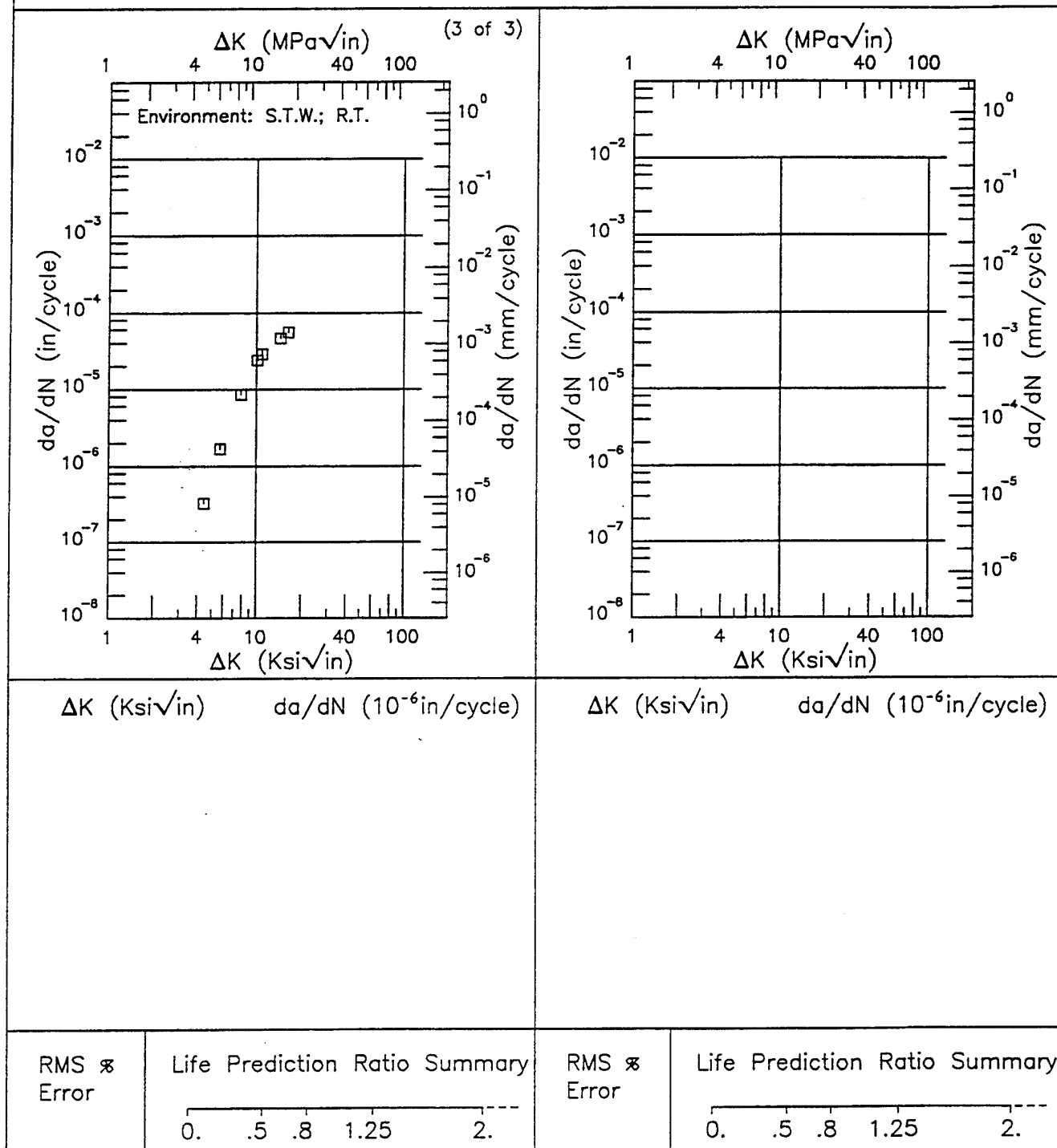
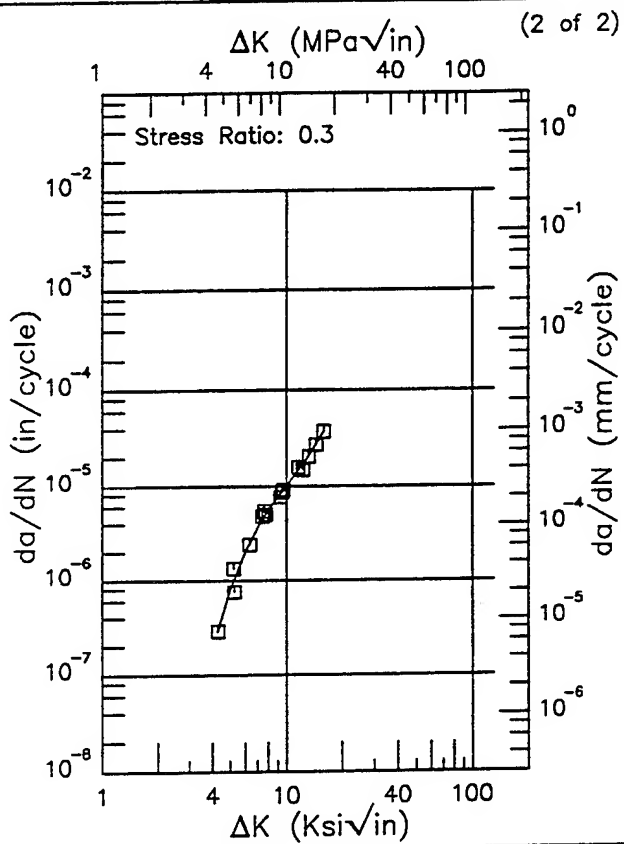
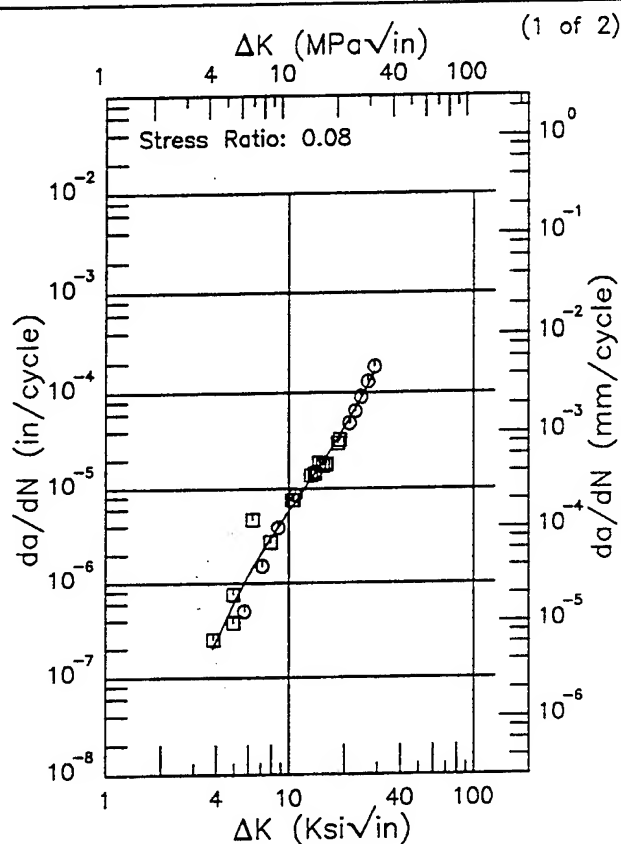


Figure 8.9.3.1.126 (Concluded)

R 7075

Condition/Ht: T76
 Form: 0.1 in. Sheet
 Specimen Type: CCP (max load specified)
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength:
 Ult. Strength:
 Specimen Thk: 0.098 - 0.099 in.
 Specimen Width: 23.79 - 23.84 in.
 Ref: 86575



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
3.85 (min)	0.203
4.	0.242
5.	0.615
6.	1.20
7.	2.01
8.	3.05
9.	4.33
10.	5.87
13.	12.3
16.	22.3
20.	43.8
25.	92.7
28.99 (max)	161.

ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
4.26 (min)	0.283
5.	0.799
6.	1.99
7.	3.63
8.	5.56
9.	7.71
10.	10.1
13.	19.8
15.89 (max)	36.7

RMS %
 Error
 49.93

Life Prediction Ratio Summary
 ○ □
 0. .5 .8 1.25 2.

RMS %
 Error
 13.12

Life Prediction Ratio Summary
 □
 0. .5 .8 1.25 2.

Figure 8.9.3.1.127

Condition/Ht: T76

Form: 0.1 in. Sheet

Specimen Type: CCP (max load specified)

Orientation: T-L

Frequency: 6 Hz

Environment: L.H.A.; RT

Yield Strength: 66 ksi

Ult. Strength: 77 ksi

Specimen Thk: 0.099 in.

Specimen Width: 23.79 in.

Ref: 86575

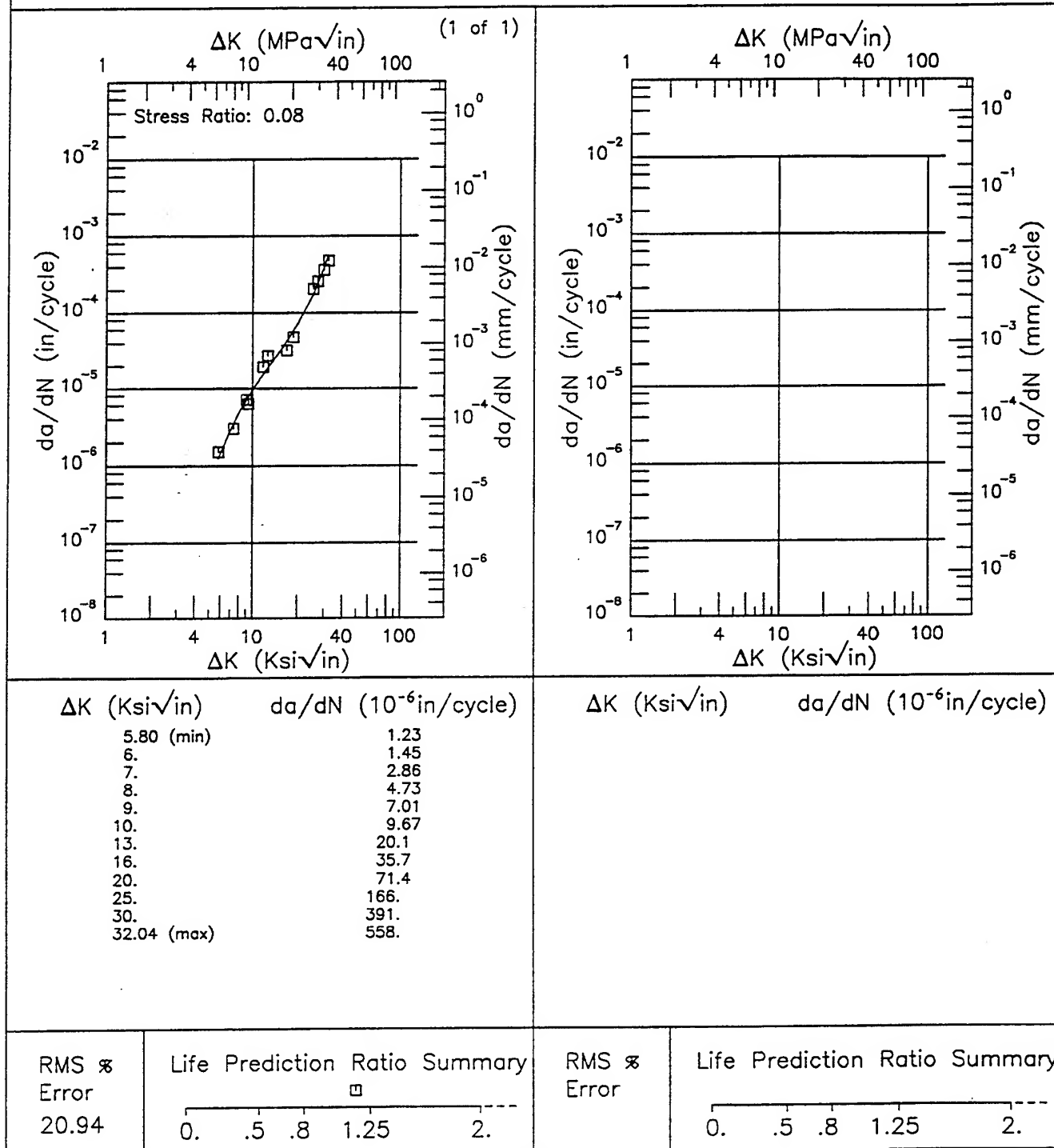


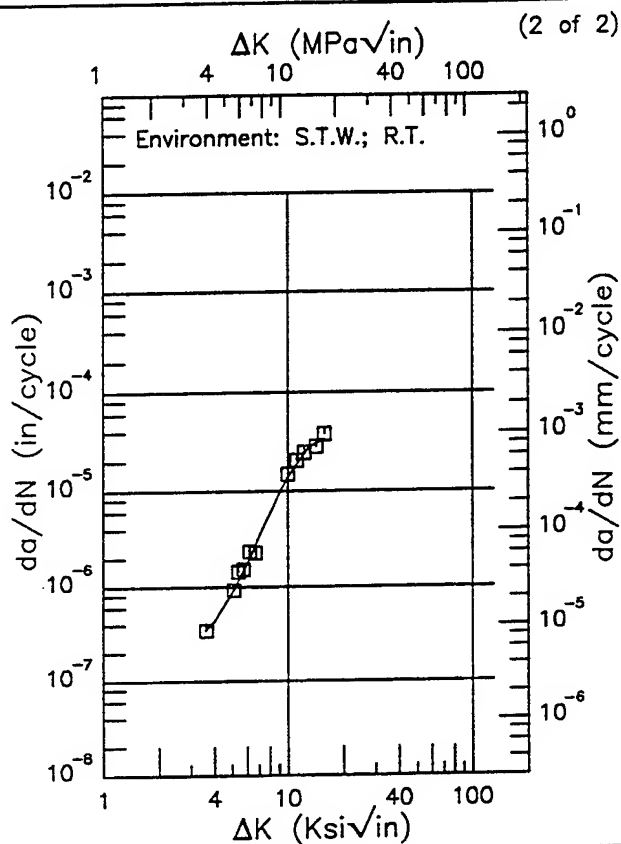
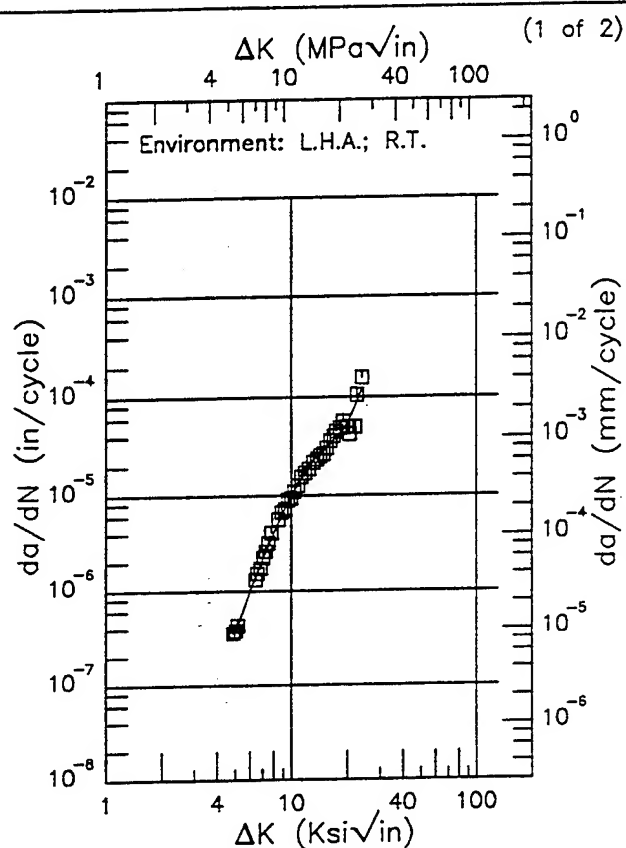
Figure 8.9.3.1.128

E

7075

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 1 Hz

Yield Strength: 64.7 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 0.813 - 0.814 in.
 Specimen Width: 6 in.
 Ref: 85837



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
4.88 (min)	0.313
5.	0.359
6.	0.985
7.	2.17
8.	4.05
9.	6.69
10.	10.0
13.	22.1
16.	32.7
20.	52.3
23.91 (max)	117.

ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
3.59 (min)	0.349
4.	0.436
5.	0.868
6.	1.77
7.	3.39
8.	5.95
9.	9.50
10.	13.9
13.	27.9
15.70 (max)	33.4

RMS %
 Error
 12.04

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 11.66

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.129

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Environment: L.H.A.; RT

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.992 - 0.994 in.
 Specimen Width: 7.4 in.
 Ref: 85837;88579

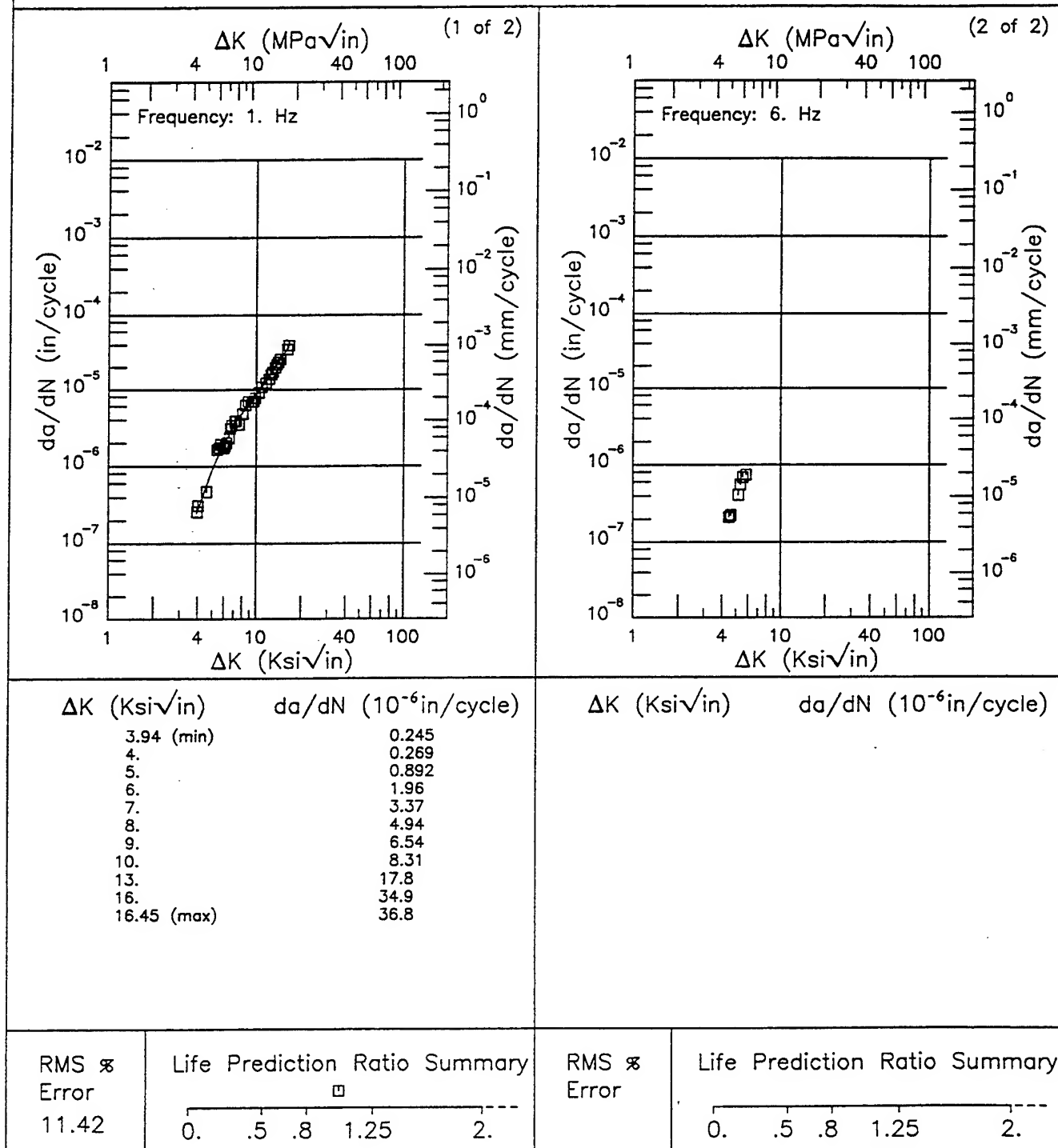
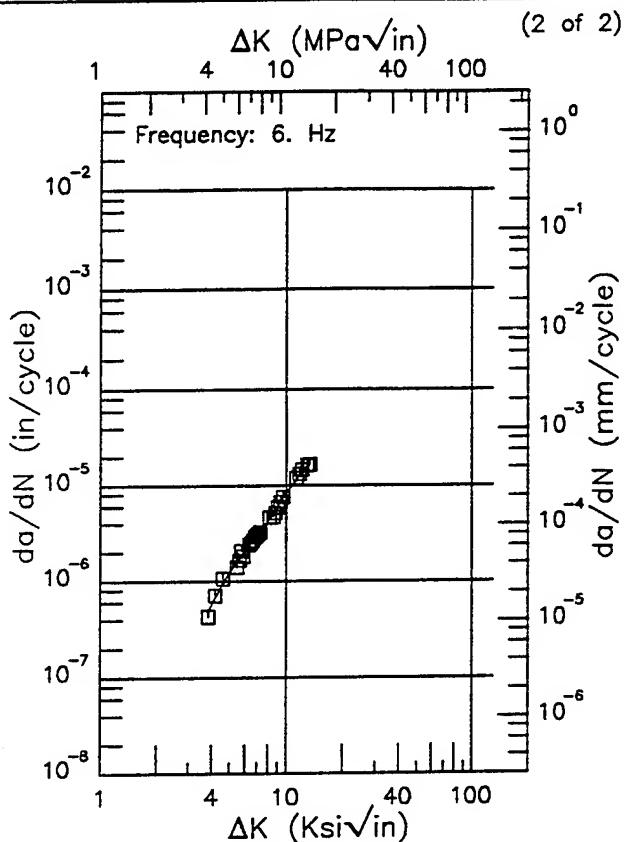
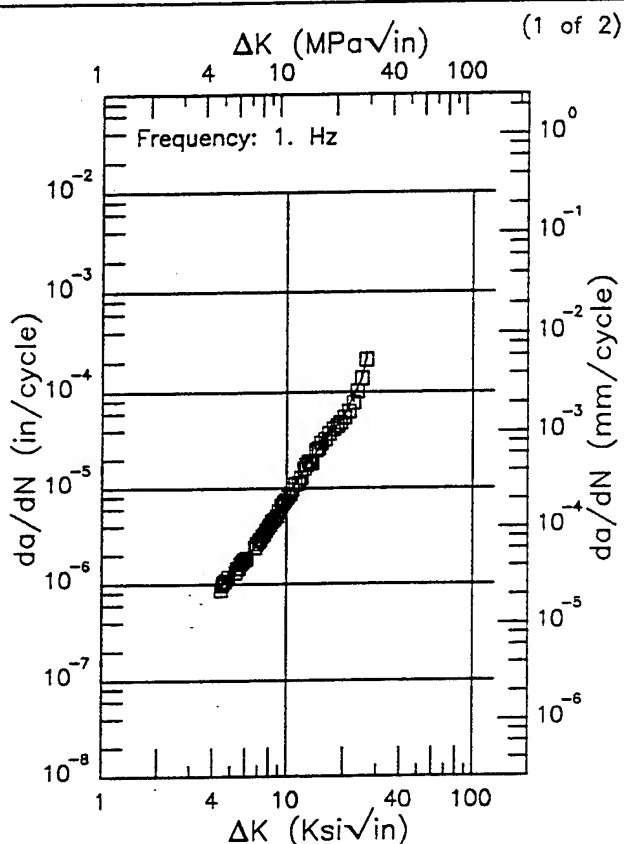


Figure 8.9.3.1.130

F 7075

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Environment: L.H.A.; 265°F

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.99 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.42 (min)	0.940
5.	1.20
6.	1.82
7.	2.68
8.	3.88
9.	5.50
10.	7.67
13.	18.1
16.	32.3
20.	54.7
25.	140.
26.29 (max)	213.

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
3.84 (min)	0.483
4.	0.576
5.	1.25
6.	2.02
7.	2.95
8.	4.18
9.	5.97
10.	8.44
13.	16.0
13.34 (max)	16.4

RMS %
 Error
 4.29

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

RMS %
 Error
 6.17

Life Prediction Ratio Summary

0. .5 .8 1.25 2.

Figure 8.9.3.1.131

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.501 in.
 Specimen Width: 7.4 in.
 Ref: 85837

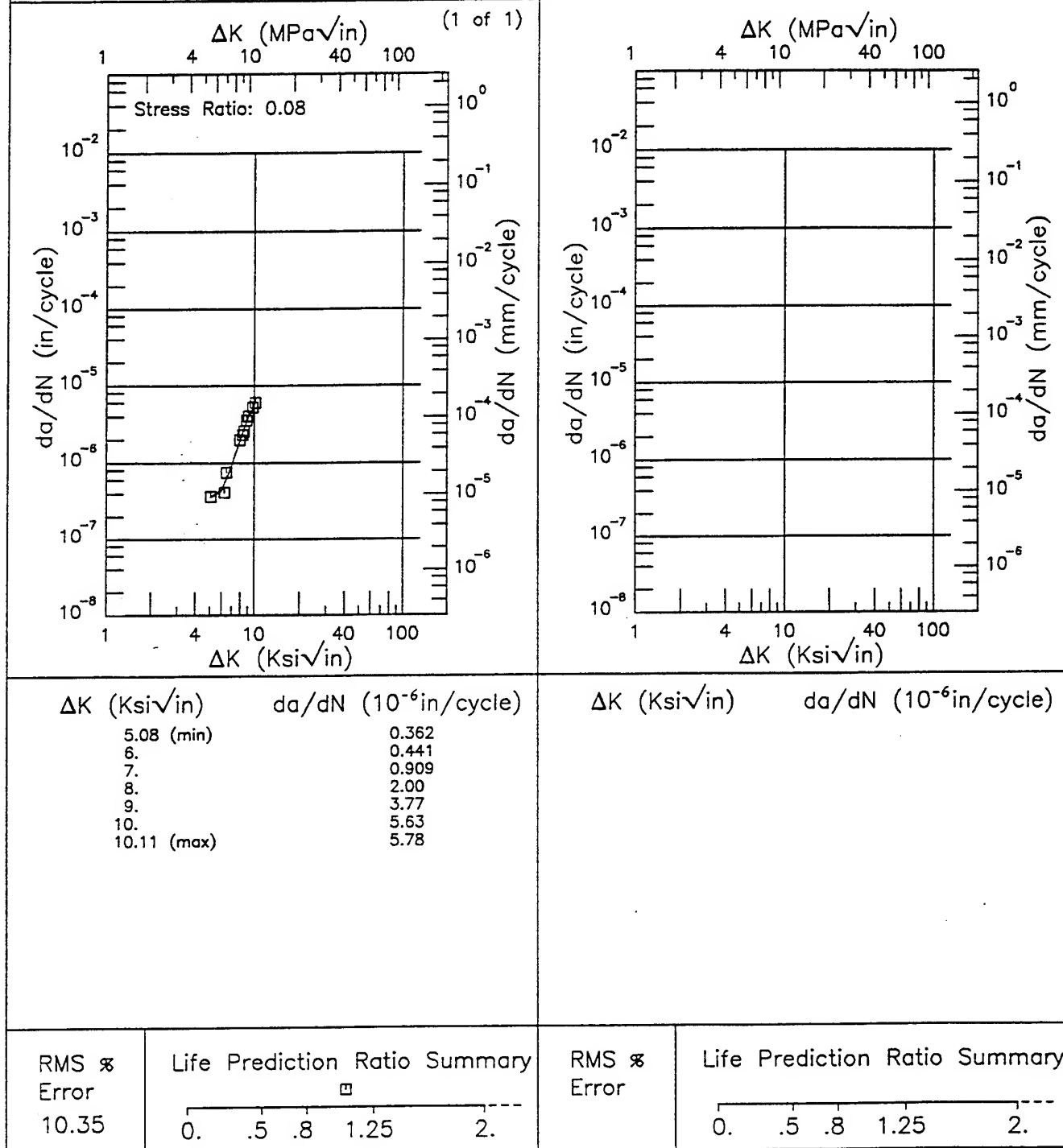
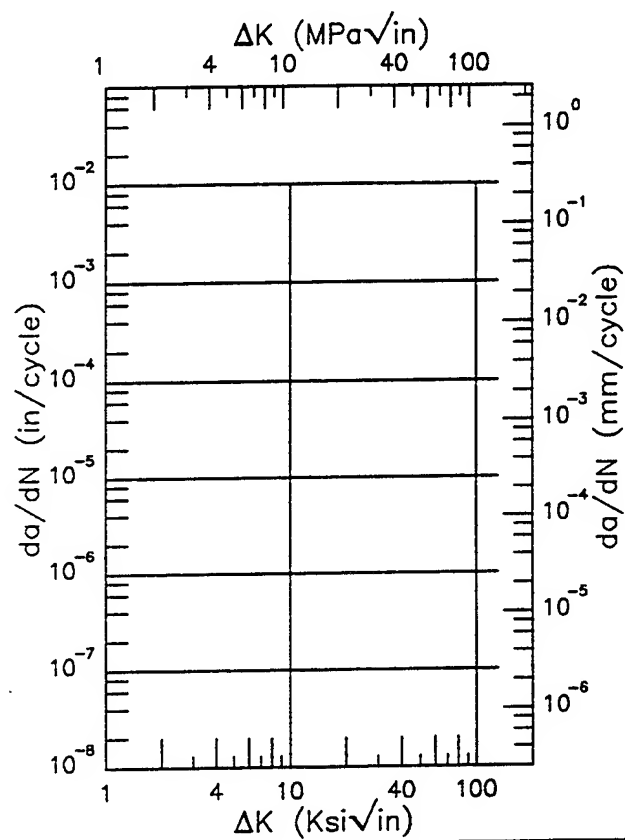
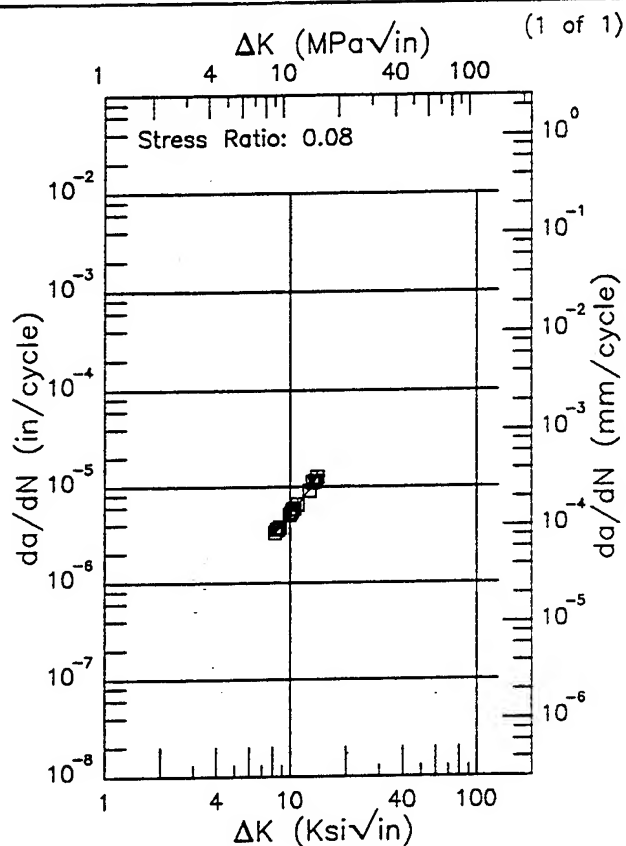


Figure 8.9.3.1.132

R | 7075 |
 Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6. Hz
 Environment: L.H.A.; RT

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.25 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi√in)	da/dN (10^{-6} in/cycle)
8.23 (min)	3.28
9.	3.98
10.	5.18
13.	9.88
13.89 (max)	12.7

ΔK (Ksi√in) da/dN (10^{-6} in/cycle)

RMS %
 Error
 2.09

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.133

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Stress Ratio: 0.08
 Frequency: 1 Hz

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.99 - 0.993 in.
 Specimen Width: 7.4 in.
 Ref: 88579;85837

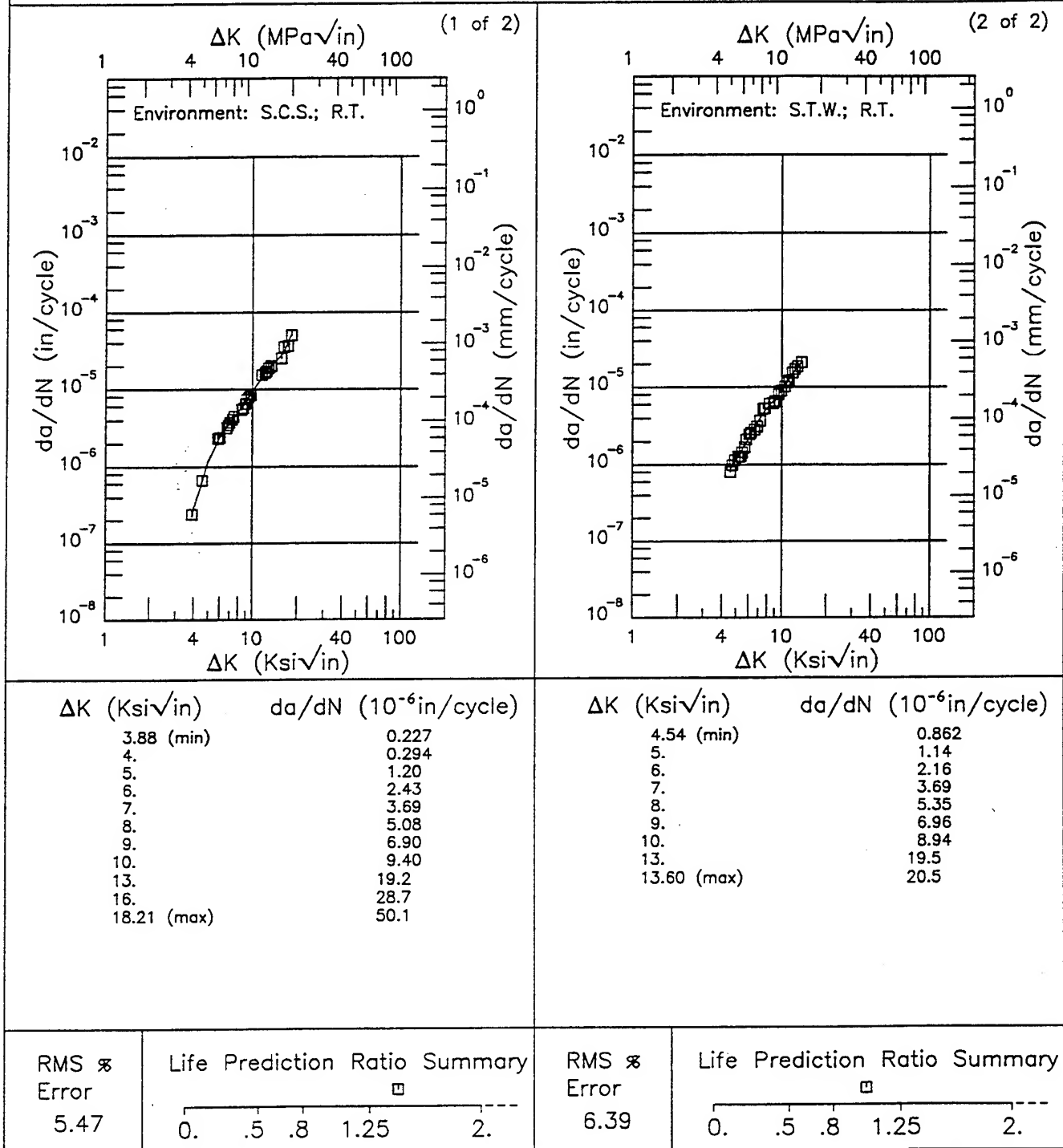


Figure 8.9.3.1.134

R

7075

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 64.7 ksi
 Ult. Strength: 75.5 ksi
 Specimen Thk: 0.812 in.
 Specimen Width: 6 in.
 Ref: 85837

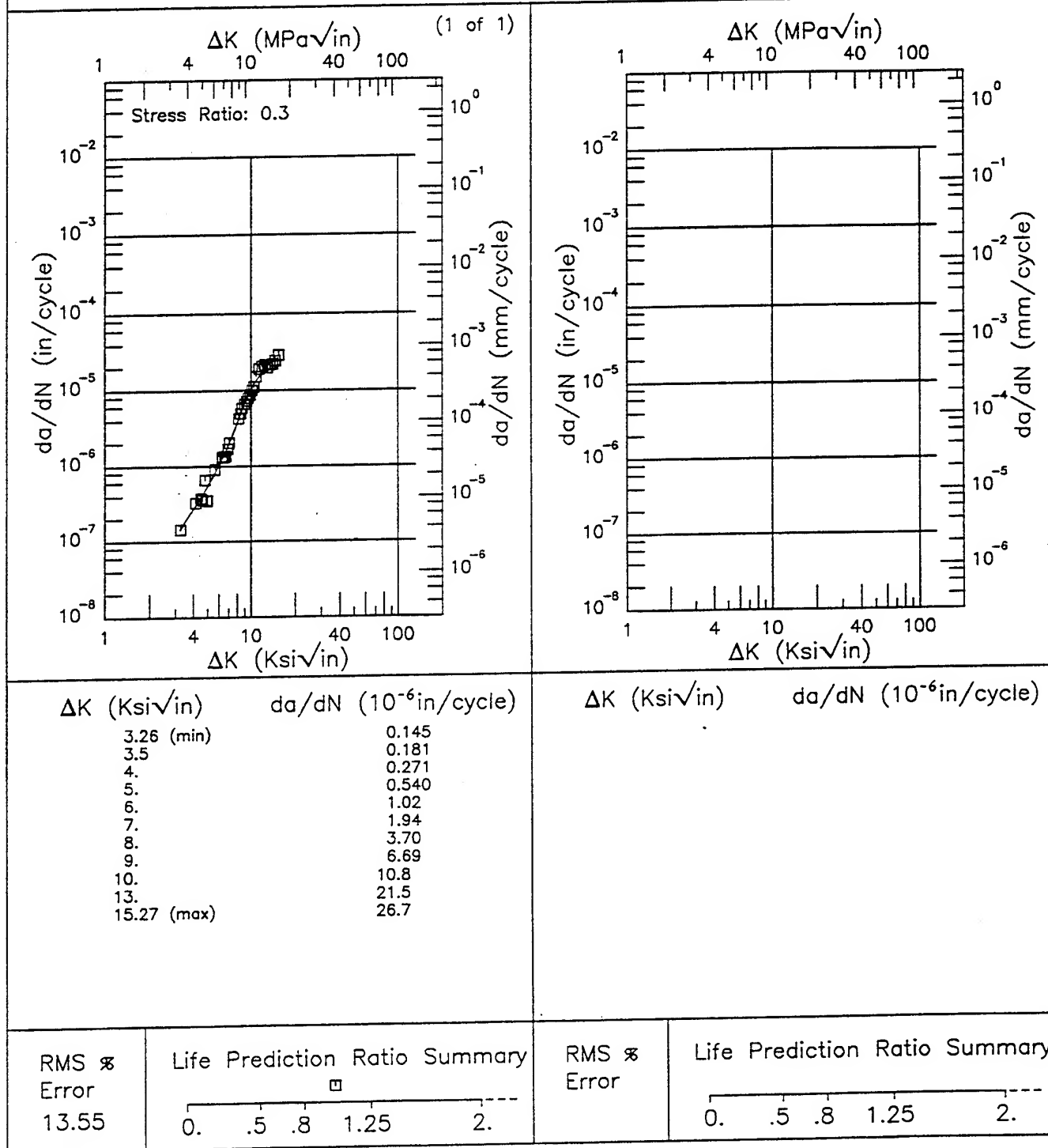


Figure 8.9.3.1.135

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.99 in.
 Specimen Width: 7.4 in.
 Ref: 88579

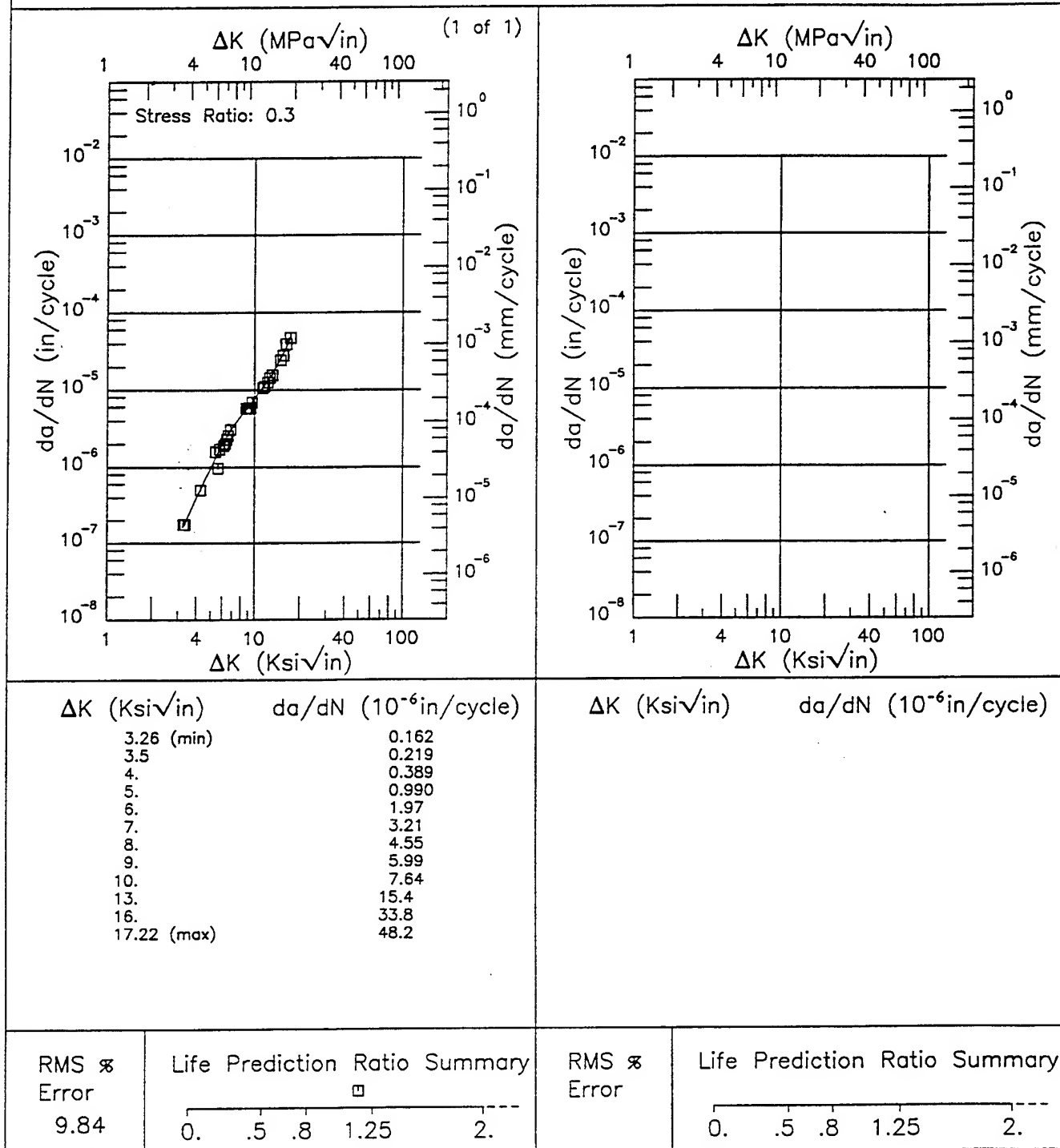


Figure 8.9.3.1.136

R 7075
 Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: L-T
 Frequency: 1 Hz
 Environment: S.T.W.; RT

Yield Strength: 63 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.992 - 0.995 in.
 Specimen Width: 7.4 in.
 Ref: 85837

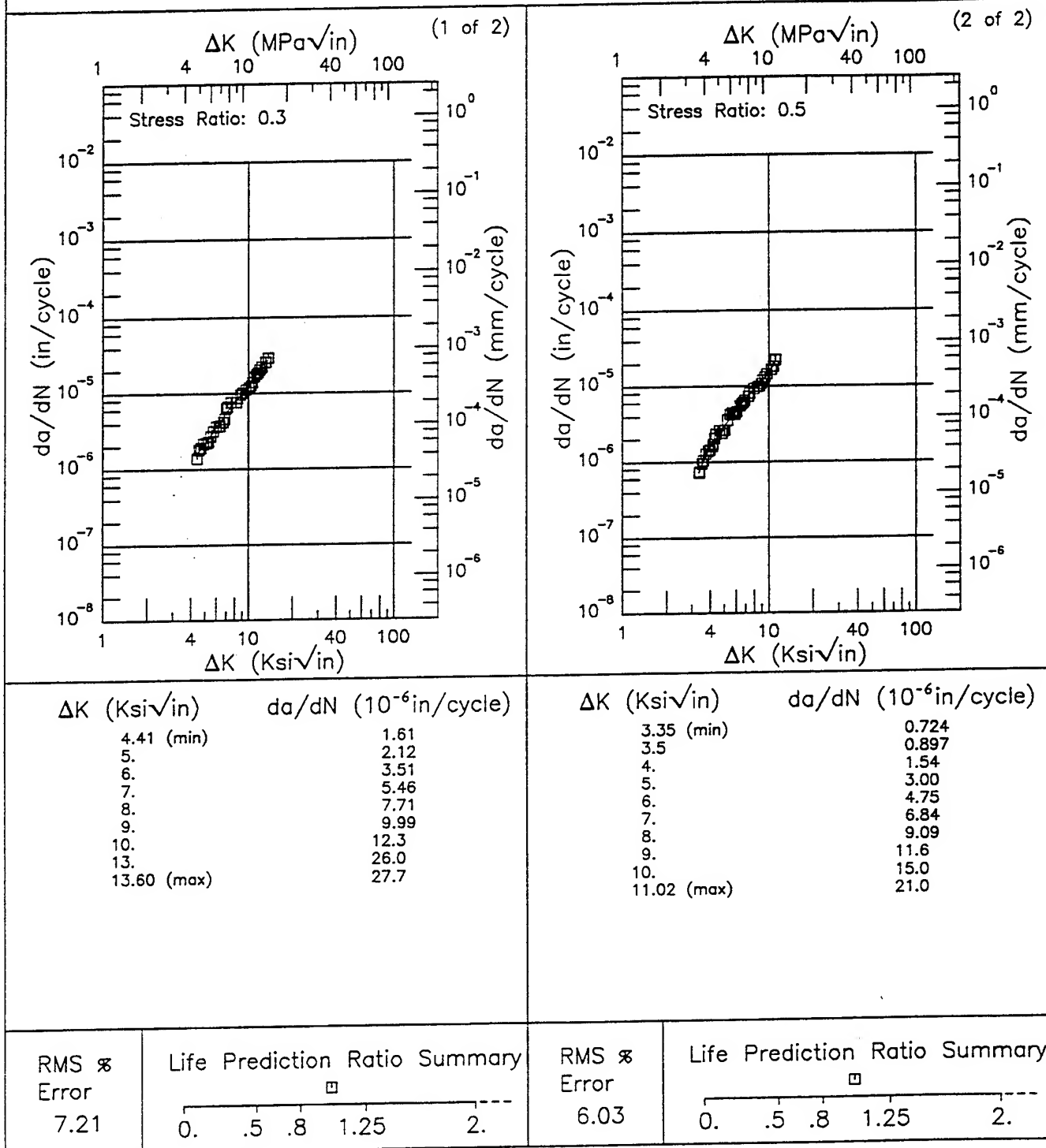


Figure 8.9.3.1.137

Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Frequency: 6 Hz
 Environment: L.H.A.; RT

Yield Strength: 64 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.505 in.
 Specimen Width: 7.4 in.
 Ref: 85837

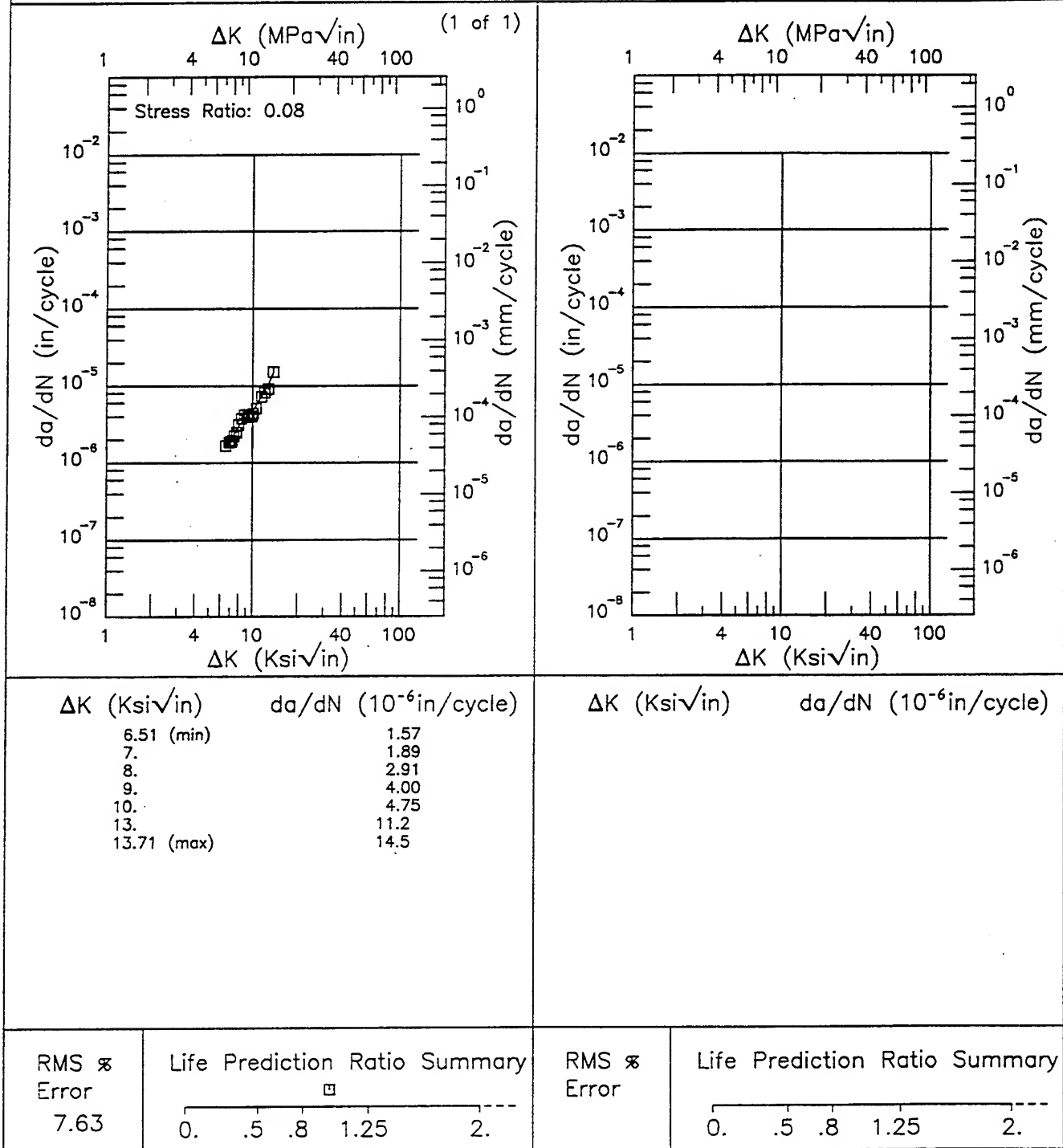
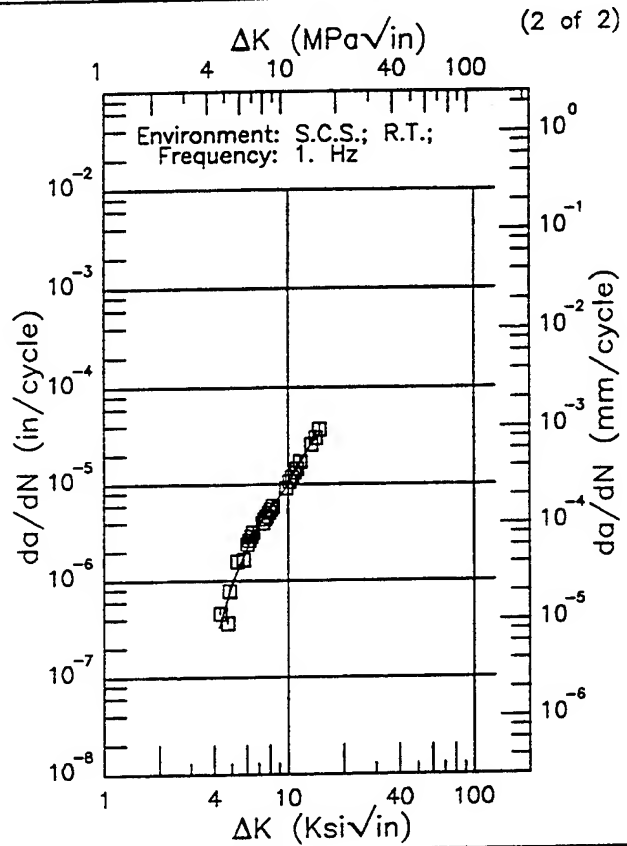
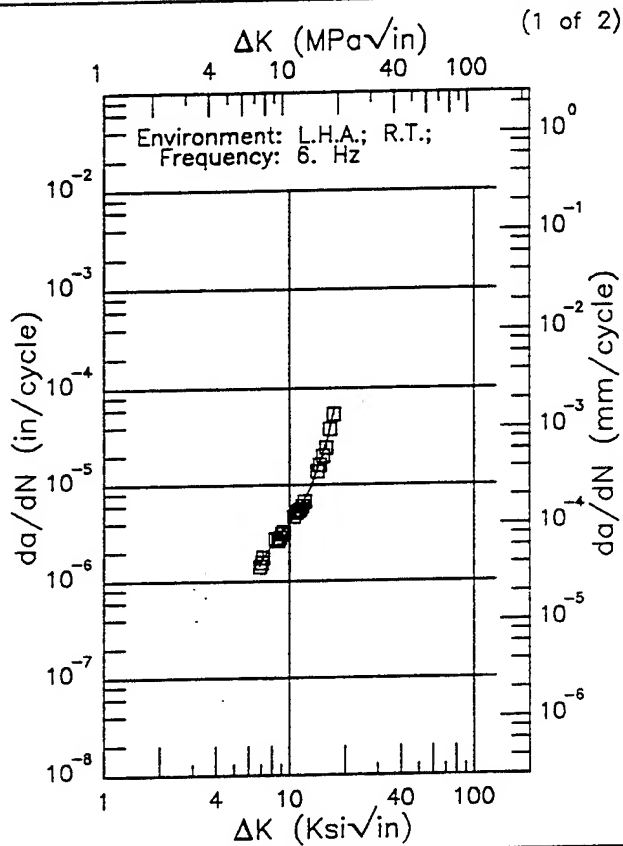


Figure 8.9.3.1.138

EF 7075
 Condition/Ht: T7651
 Form: 2 in. Plate
 Specimen Type: CT
 Orientation: T-L
 Stress Ratio: 0.08

Yield Strength: 64 ksi
 Ult. Strength: 74 ksi
 Specimen Thk: 0.99 in.
 Specimen Width: 7.4 in.
 Ref: 88579



ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
6.88 (min)	1.48
7.	1.59
8.	2.39
9.	3.09
10.	3.93
13.	9.23
16.	30.1
17.22 (max)	54.6

ΔK (Ksi $\sqrt{\text{in}}$)	da/dN (10^{-6} in/cycle)
4.30 (min)	0.331
5.	0.891
6.	2.14
7.	3.71
8.	5.47
9.	7.51
10.	10.0
13.	24.4
14.82 (max)	33.8

RMS %
 Error
 5.60

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

RMS %
 Error
 13.85

Life Prediction Ratio Summary

 0. .5 .8 1.25 2.

Figure 8.9.3.1.139

Condition/Ht: T76511

Form: Extrusion

Specimen Type: CT

Orientation: L-T

Frequency: 6 Hz

Environment: L.H.A.; RT

Yield Strength: 68 ksi

Ult. Strength: 77 ksi

Specimen Thk: 1 in.

Specimen Width: 6 in.

Ref: 88579

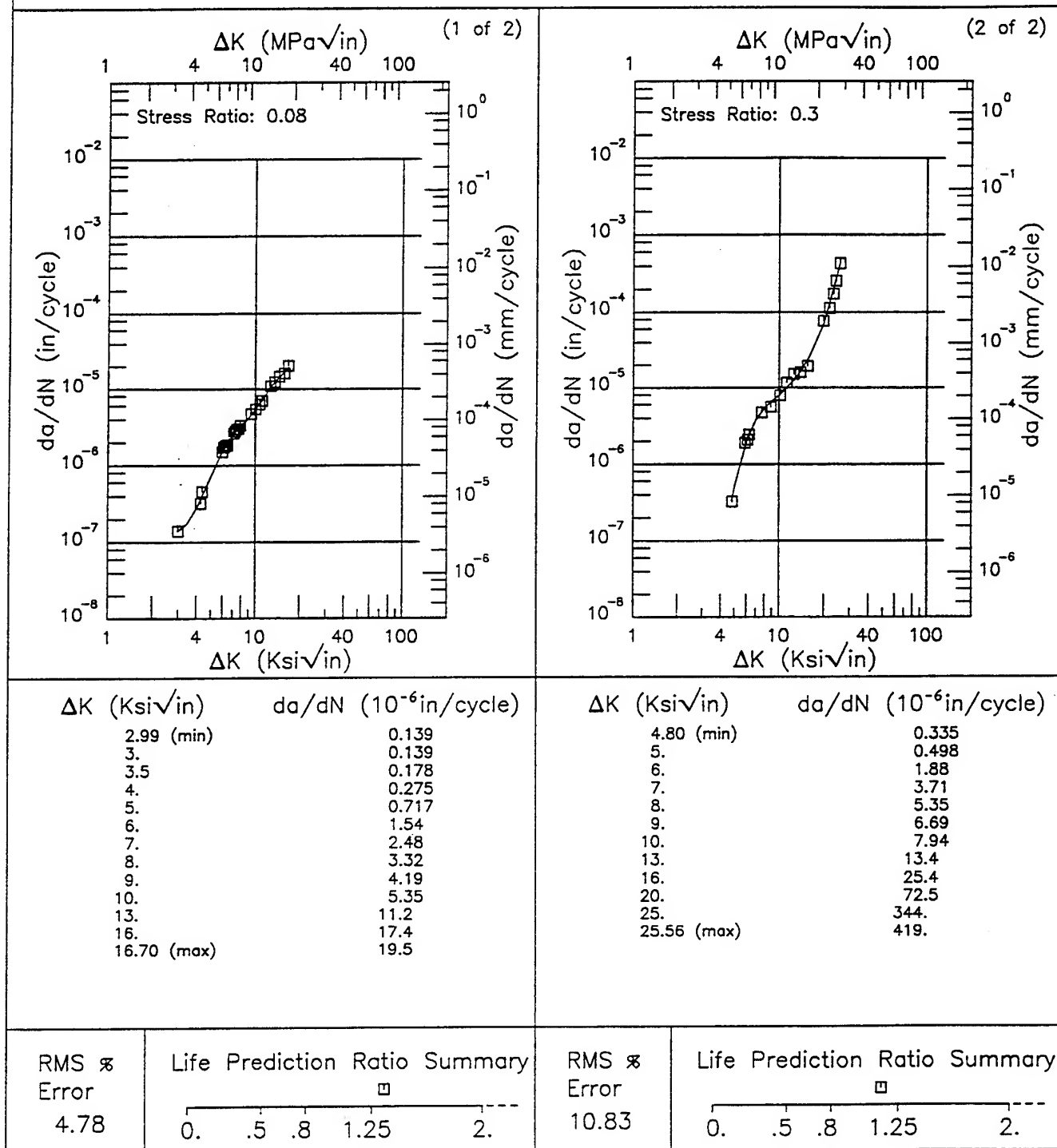


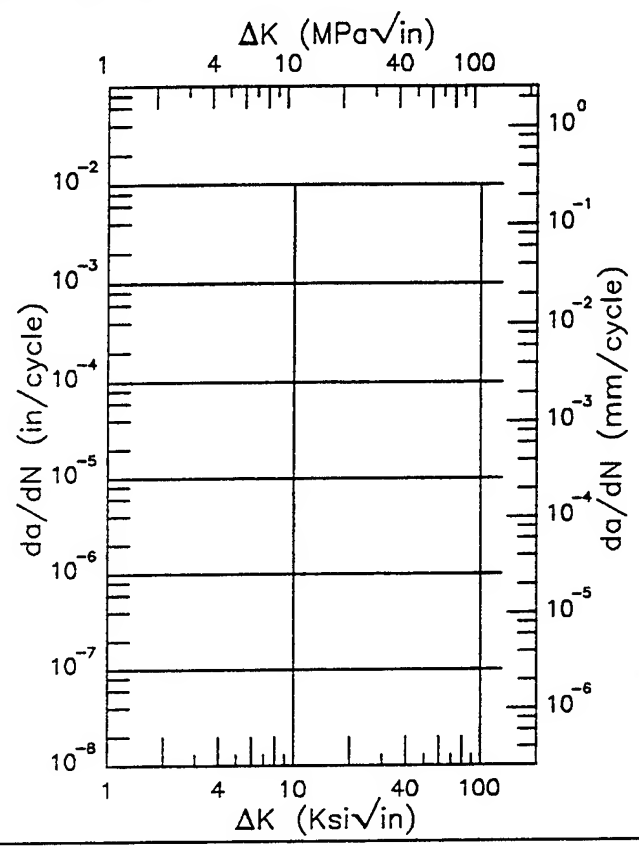
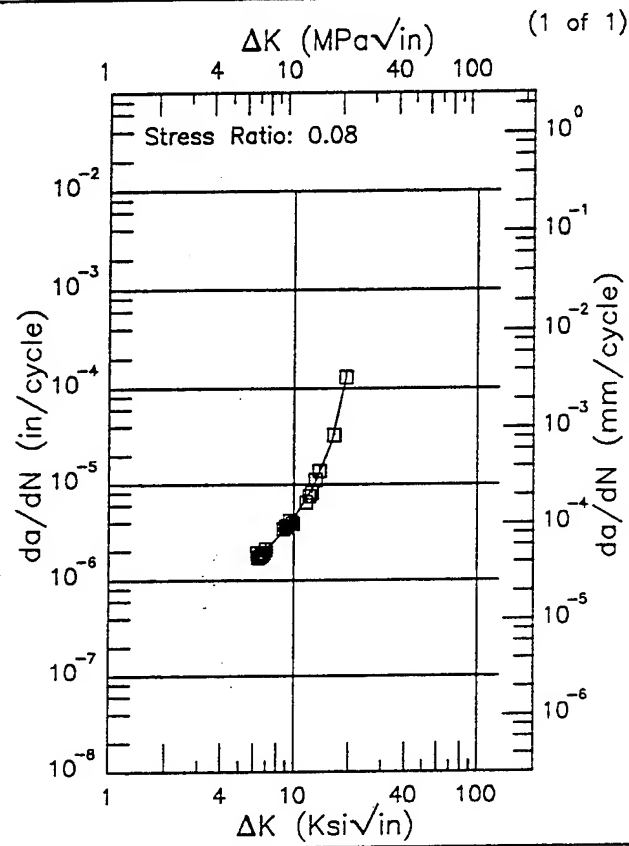
Figure 8.9.3.1.140

R

7075

Condition/Ht: T76511
 Form: Extrusion
 Specimen Type: CT
 Orientation: T-L
 Frequency: 6 Hz
 Environment: L.H.A.; RT

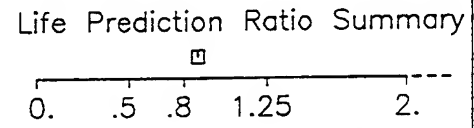
Yield Strength: 61 ksi
 Ult. Strength: 72 ksi
 Specimen Thk: 1 in.
 Specimen Width: 6 in.
 Ref: 88579



ΔK (Ksi√in)	da/dN (10 ⁻⁶ in/cycle)
6.23 (min)	1.65
7.	2.08
8.	2.70
9.	3.45
10.	4.42
13.	9.98
16.	28.1
19.09 (max)	125.

ΔK (Ksi√in) da/dN (10⁻⁶in/cycle)

RMS %
 Error
 6.42



RMS %
 Error

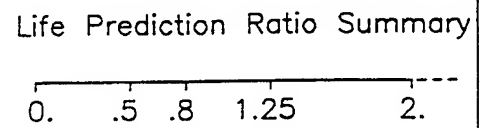


Figure 8.9.3.1.141

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7075

Condition/Ht:

Form: 1 in. Plate

Specimen Type: DCB

Orientation: S-L

Yield Strength:

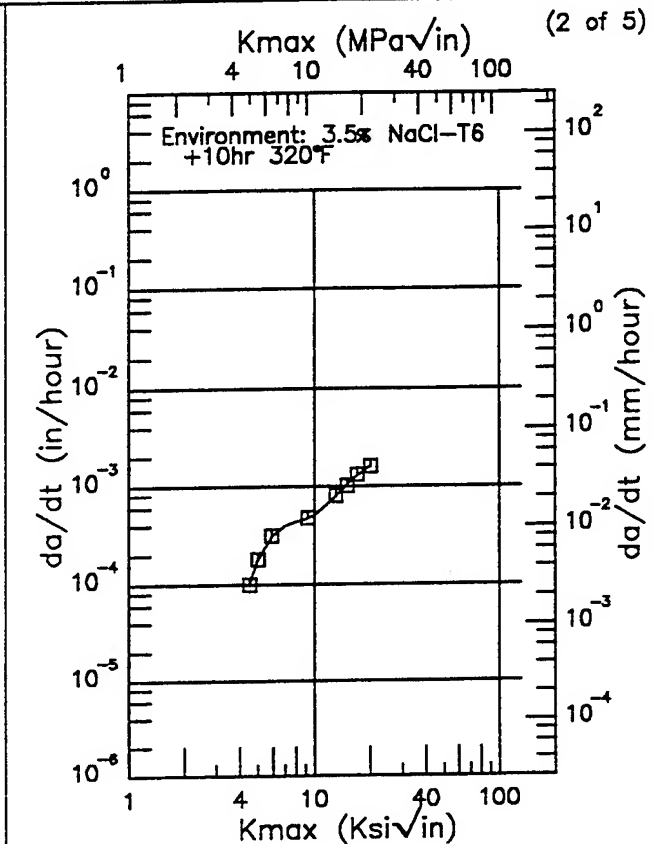
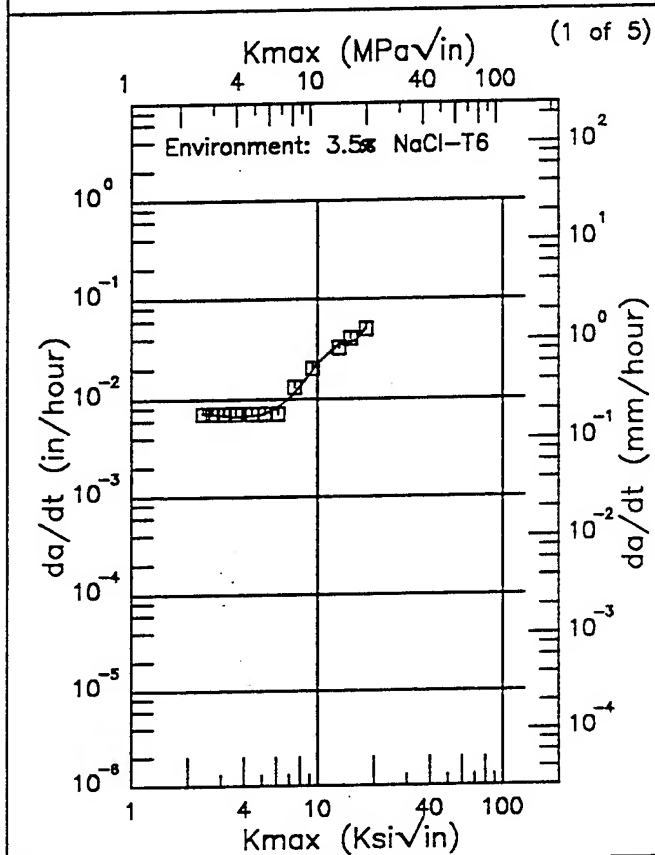
Ult. Strength:

Specimen Thk: 1 in.

Specimen Width: 5 in.

A₀:K_{Isc}:

Ref: 84286



Kmax (Ksi√in)	da/dt (10 ⁻³ in/hour)
2.40 (min)	7.23
3.	7.19
3.	6.95
4.	6.75
4.	6.69
5.	7.07
6.	8.16
7.	10.1
8.	13.3
8.	17.8
9.	17.8
10.	23.0
13.	35.2
16.	38.7
18.00 (max)	50.8

Kmax (Ksi√in)	da/dt (10 ⁻³ in/hour)
4.50 (min)	0.0993
5.	0.178
6.	0.322
7.	0.401
8.	0.436
9.	0.464
10.	0.510
13.	0.789
16.	1.16
20.00 (max)	1.60

RMS %
Error
6.98

RMS %
Error
1.68

Figure 8.9.3.2.1

Condition/Ht:

Form: 1 in. Plate

Specimen Type: DCB

Orientation: S-L

Yield Strength:

Ult. Strength:

Specimen Thk: 1 in.

Specimen Width: 5 in.

A₀:K_{Isc}:

Ref: 84286

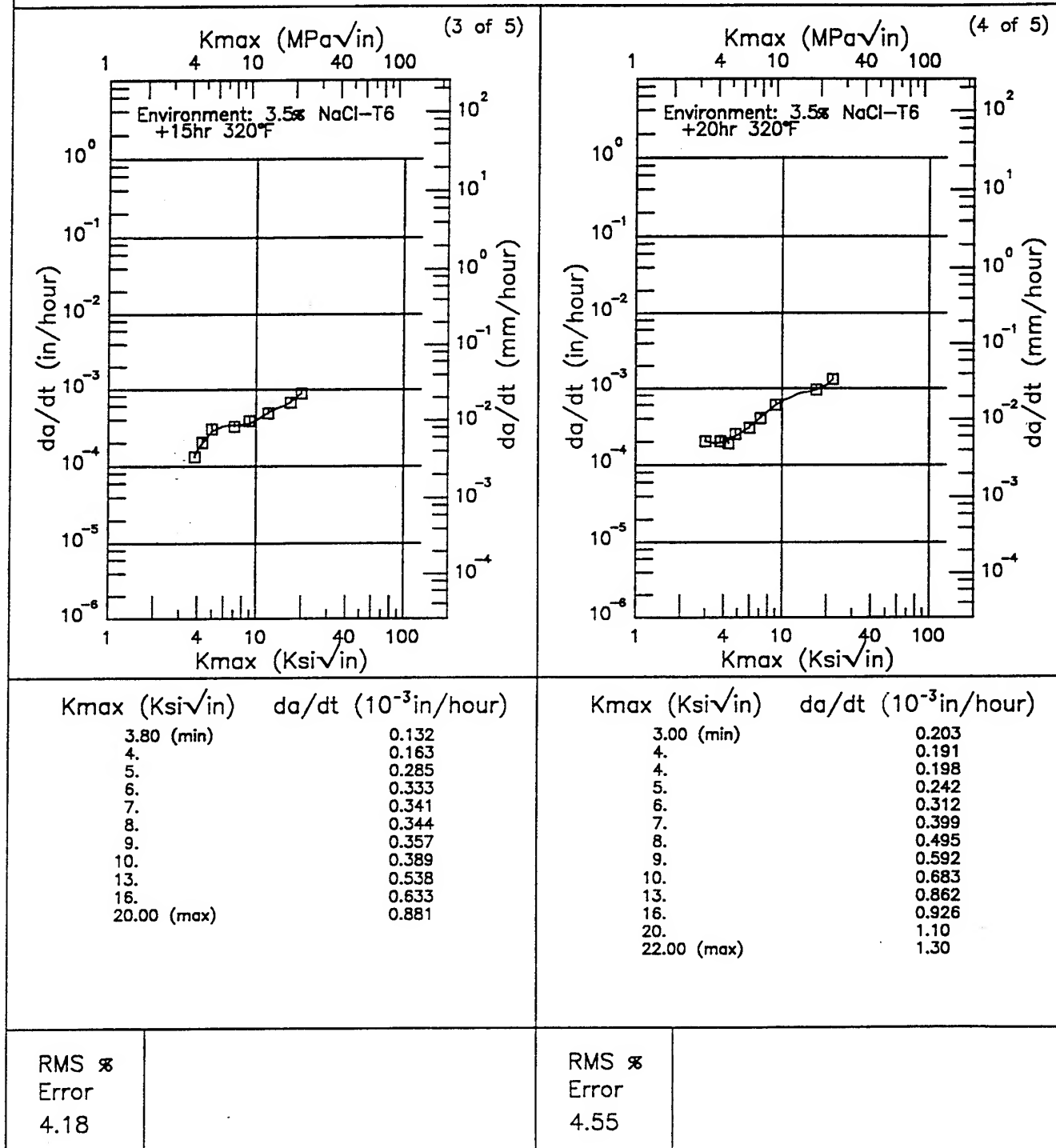


Figure 8.9.3.2.1 (Continued)

7075

Condition/Ht:
Form: 1 in. Plate
Specimen Type: DCB
Orientation: S-L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
A₀:
K_I_{ISCC}:
Ref: 84286

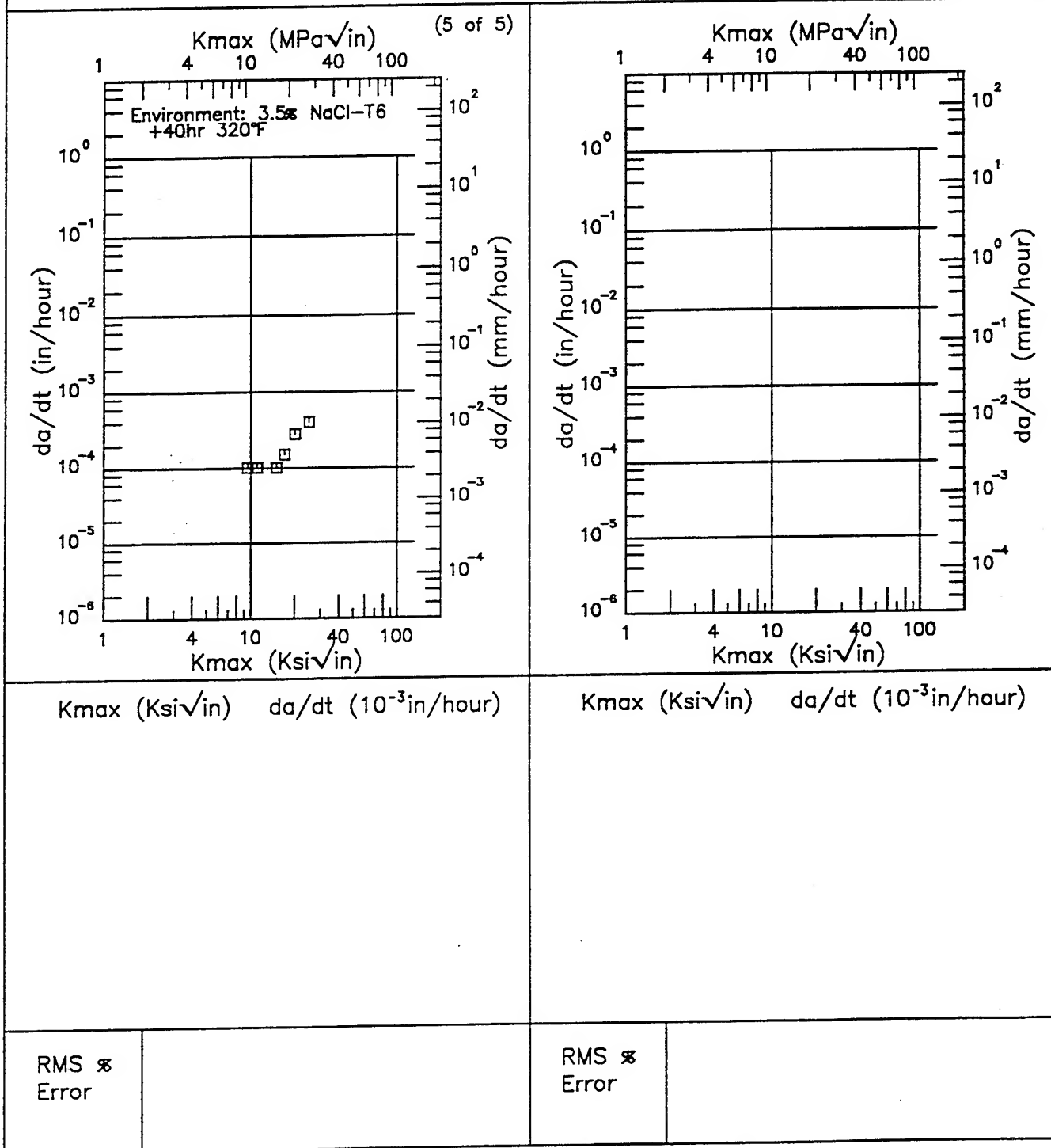


Figure 8.9.3.2.1 (Concluded)

Condition/Ht: T651
 Form:
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A₀:
 K_I_{ISCC}:
 Ref: 78313

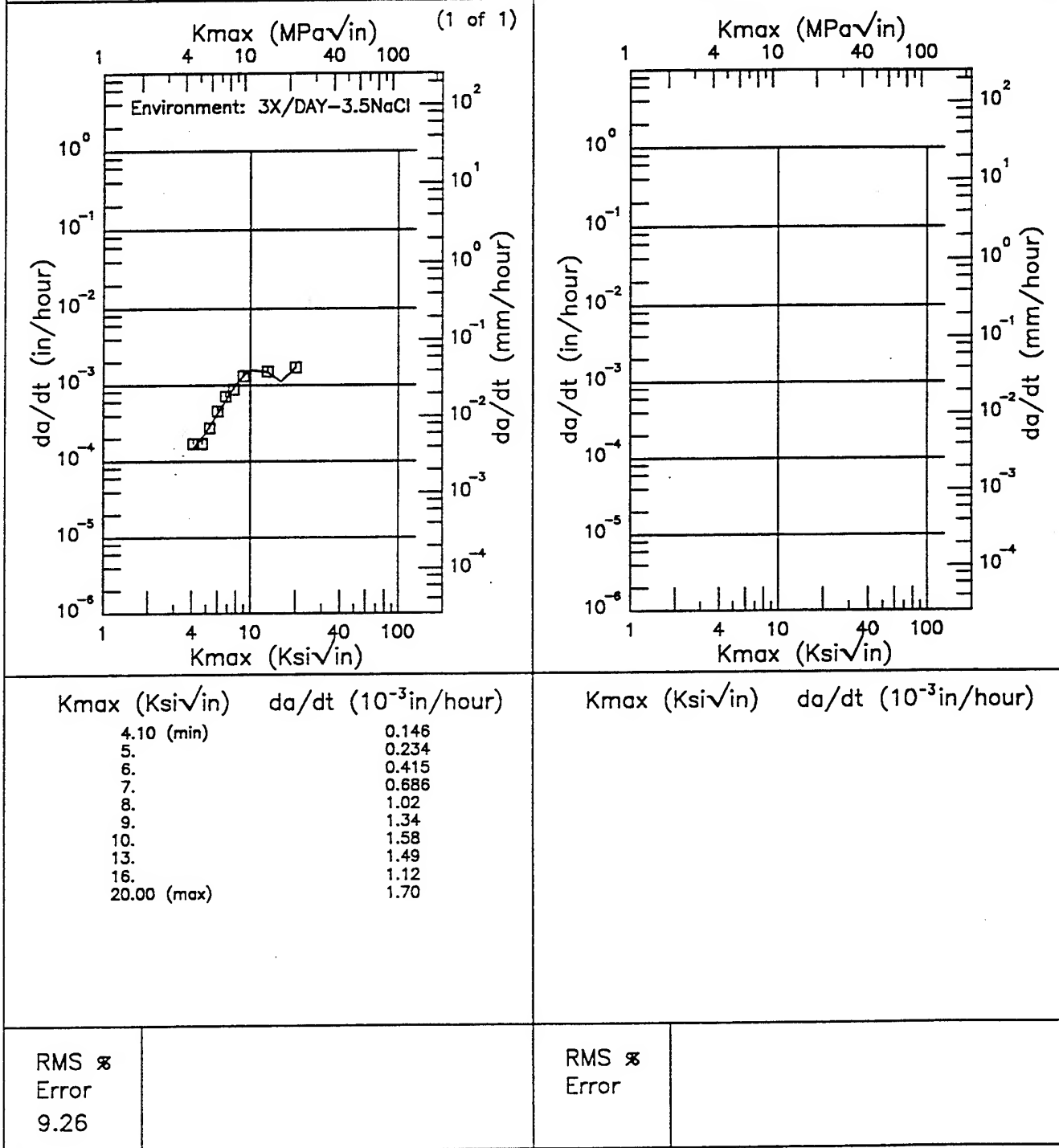


Figure 8.9.3.2.2

7075

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Yield Strength: 68 ksi
 Ult. Strength:

Specimen Thk:
 Specimen Width: 11.8 in.
 A₀: 3 in.
 K_Isec:
 Ref: 85543

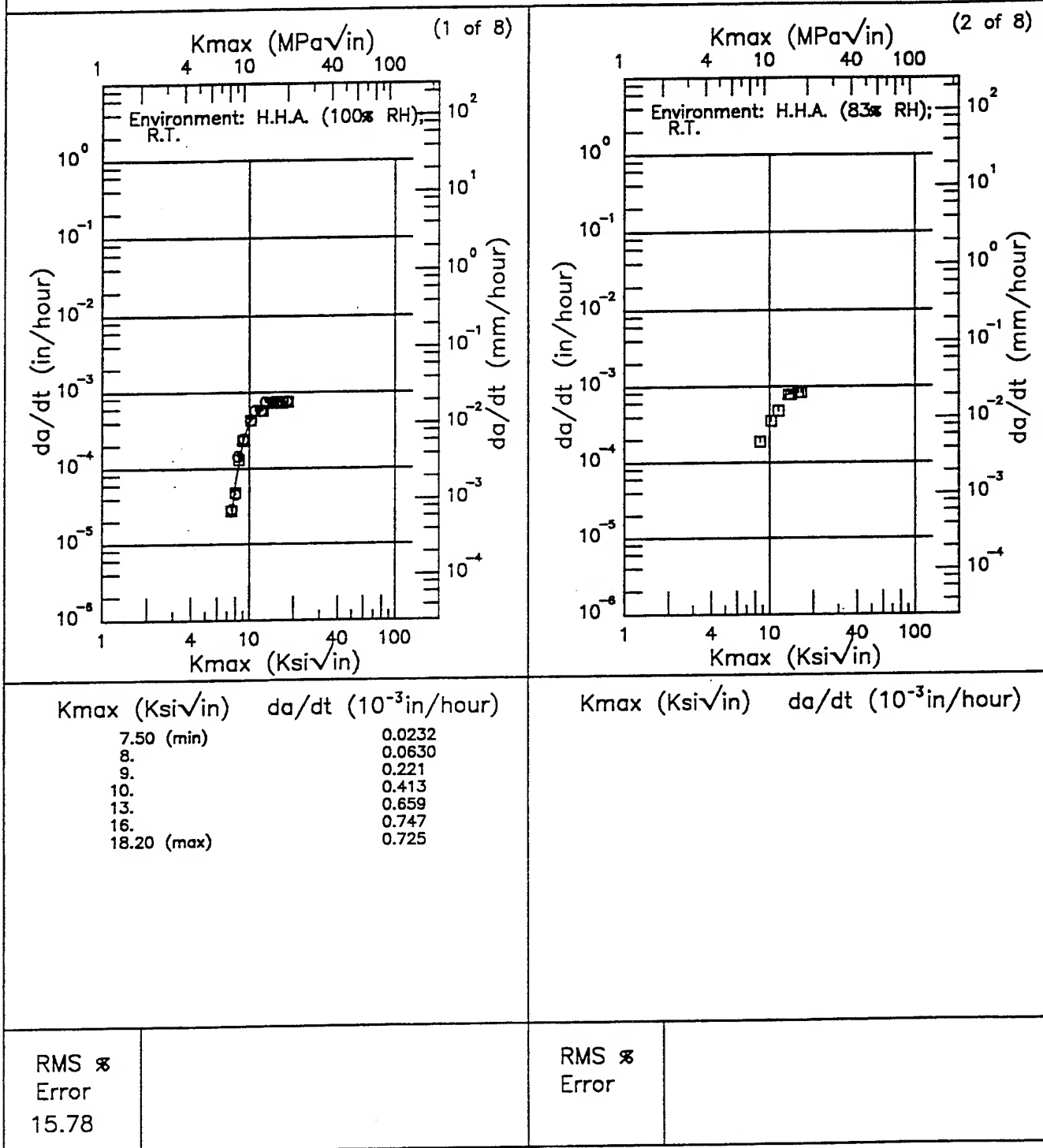
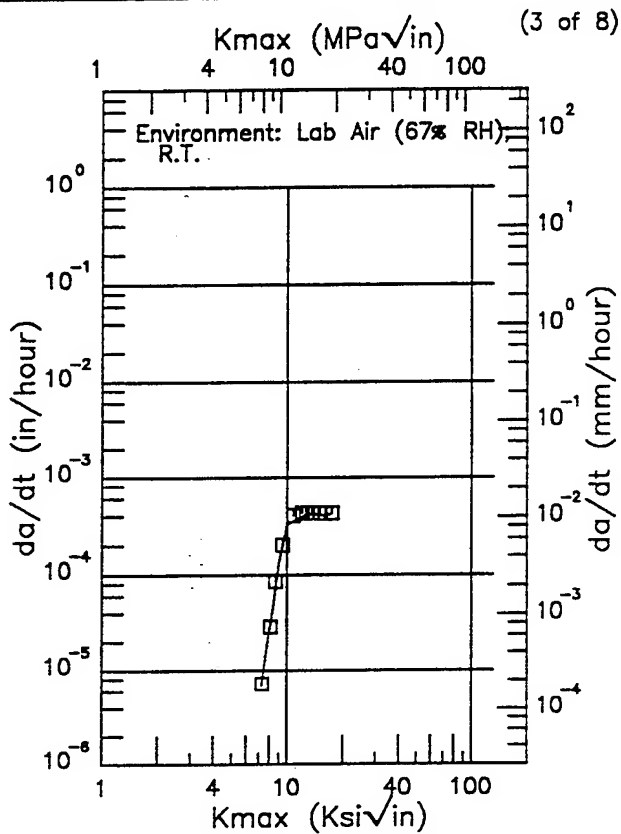


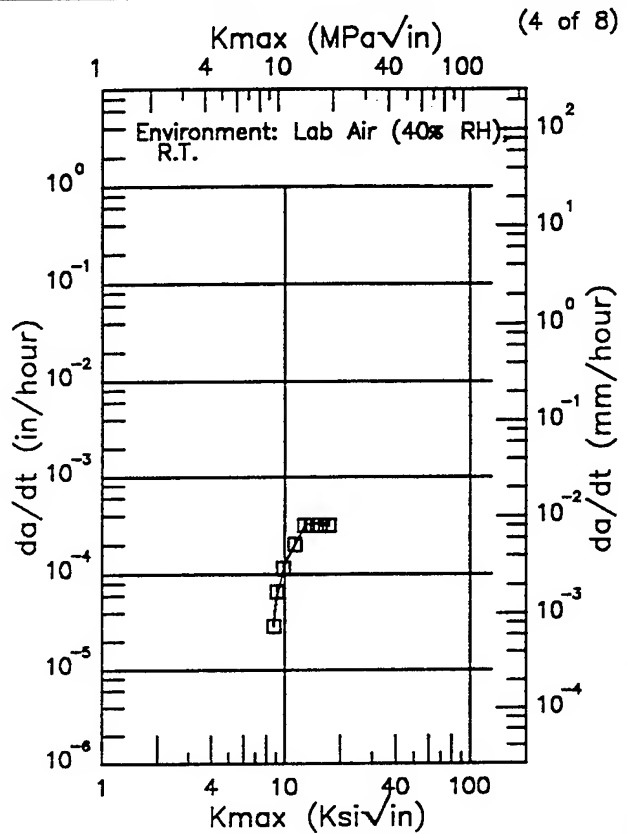
Figure 8.9.3.2.3

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Yield Strength: 68 ksi
 Ult. Strength:

Specimen Thk:
 Specimen Width: 11.8 in.
 A_0 : 3 in.
 K_{Isc} :
 Ref: 85543



Kmax (Ksi√in)	da/dt (10^{-3} in/hour)
7.30 (min)	0.00691
8.	0.0264
9.	0.130
10.	0.324
13.	0.420
16.	0.405
17.30 (max)	0.425



Kmax (Ksi√in)	da/dt (10^{-3} in/hour)
8.70 (min)	0.0301
9.	0.0534
10.	0.128
13.	0.324
16.	0.331
17.30 (max)	0.310

RMS %
 Error
 10.02

RMS %
 Error
 5.68

Figure 8.9.3.2.3 (Continued)

7075

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Yield Strength: 68 ksi
 Ult. Strength:

Specimen Thk:
 Specimen Width: 11.8 in.
 A_0 : 3 in.
 K_{Isc} :
 Ref: 85543

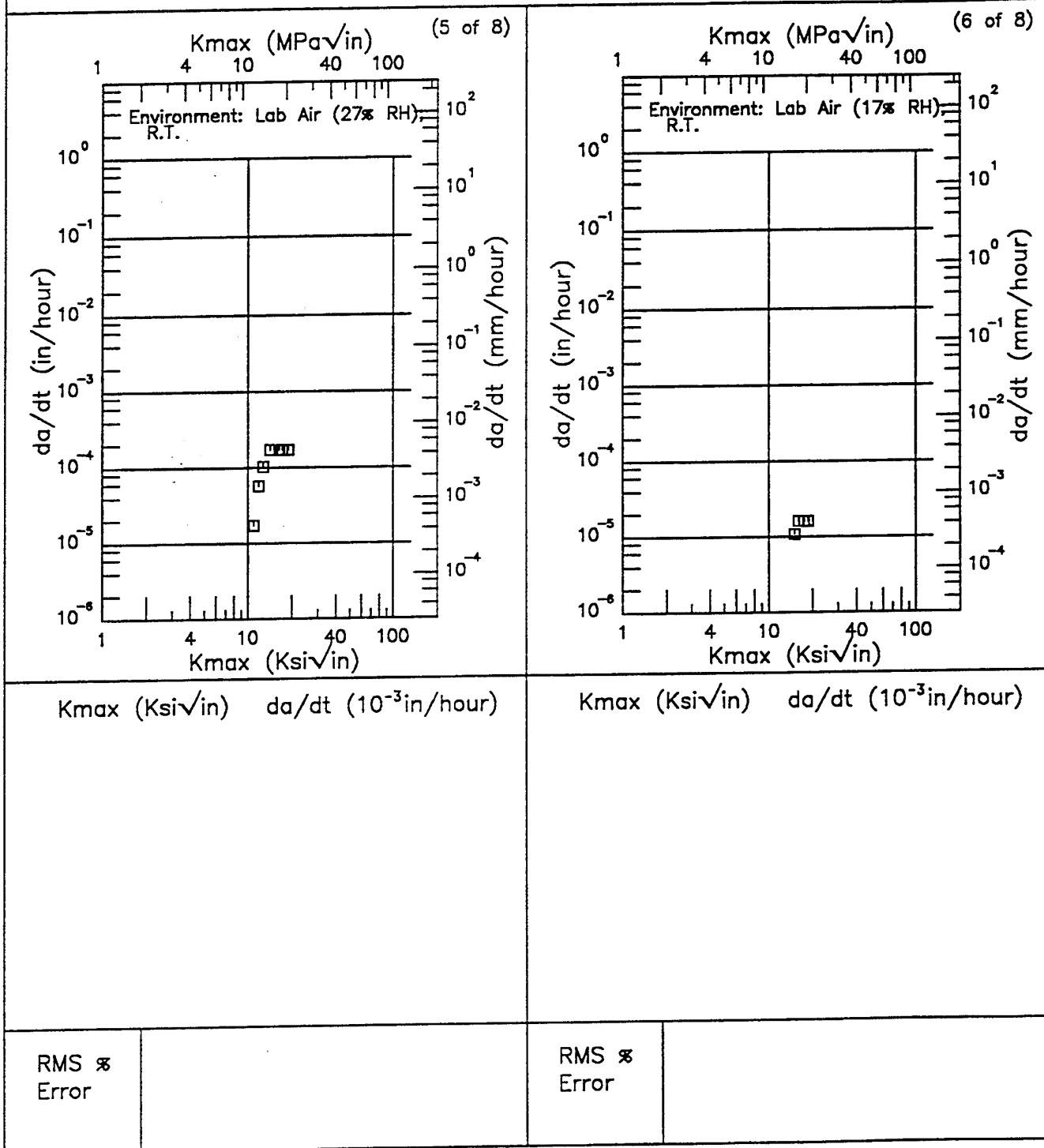


Figure 8.9.3.2.3 (Continued)

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: T-L
 Yield Strength: 68 ksi
 Ult. Strength:

Specimen Thk:
 Specimen Width: 11.8 in.
 A_0 : 3 in.
 K_{Isc} :
 Ref: 85543

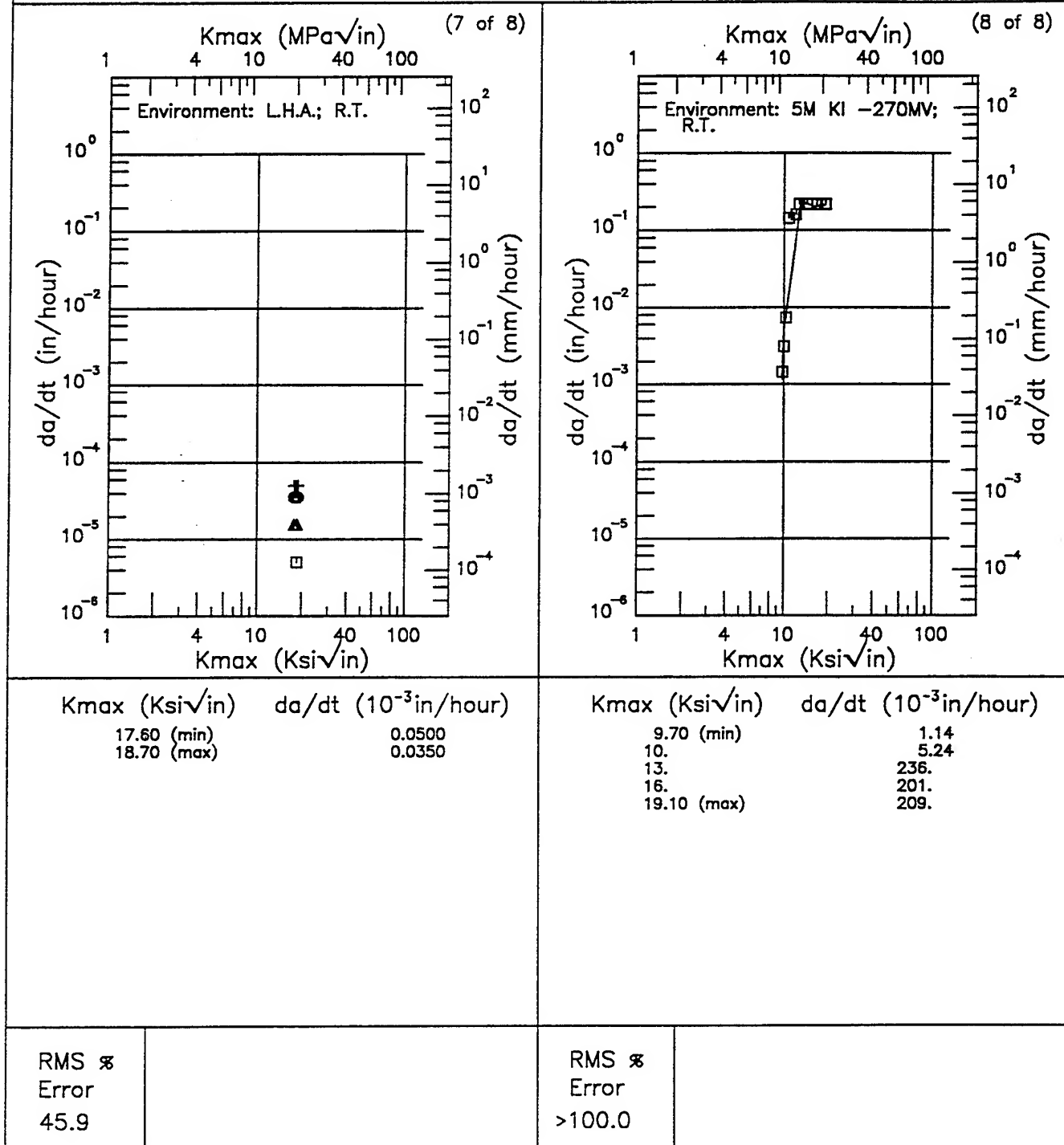
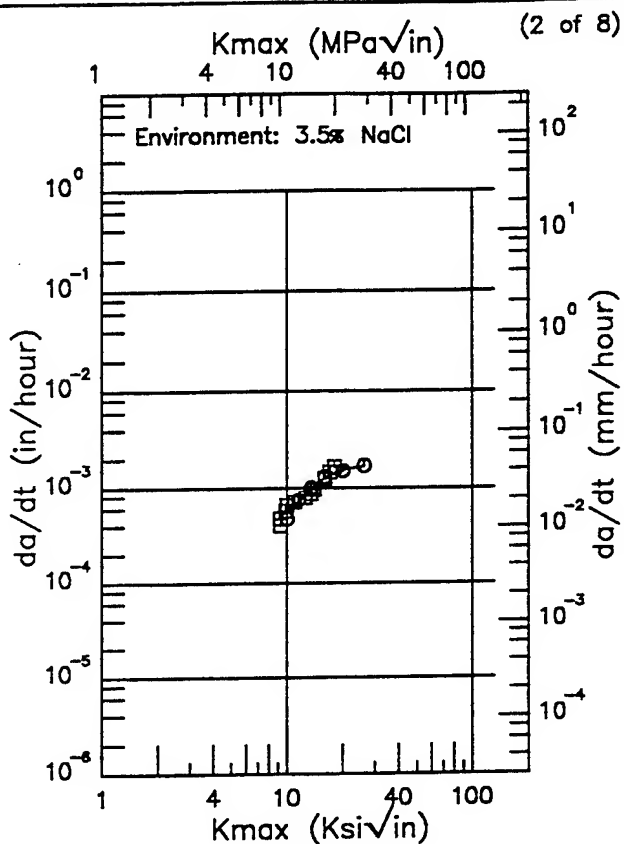
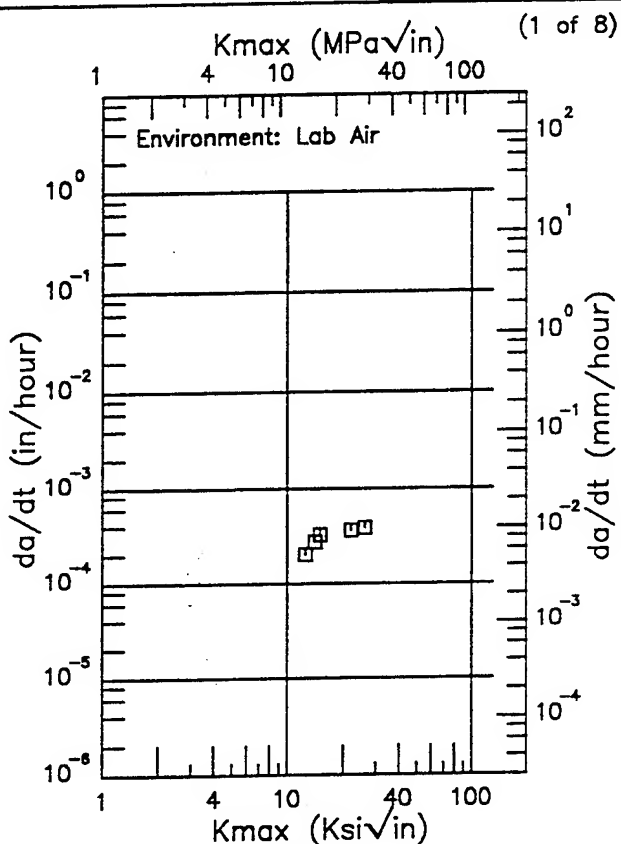


Figure 8.9.3.2.3 (Concluded)

7075

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 3.5 - 5 in.
 A₀:
 K_I_{sec}:
 Ref: 78313;84284



Kmax (Ksi√in) da/dt (10⁻³in/hour)

Kmax (Ksi√in) da/dt (10⁻³in/hour)

9.20 (min)	0.536
10.	0.577
13.	0.887
16.	1.28
20.	1.55
25.	1.66
26.00 (max)	1.70

RMS %
 Error

RMS %
 Error
 10.42

Figure 8.9.3.2.4

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 3.5 - 5 in.
 A_0 :
 K_{Isc} :
 Ref: 78313;84284

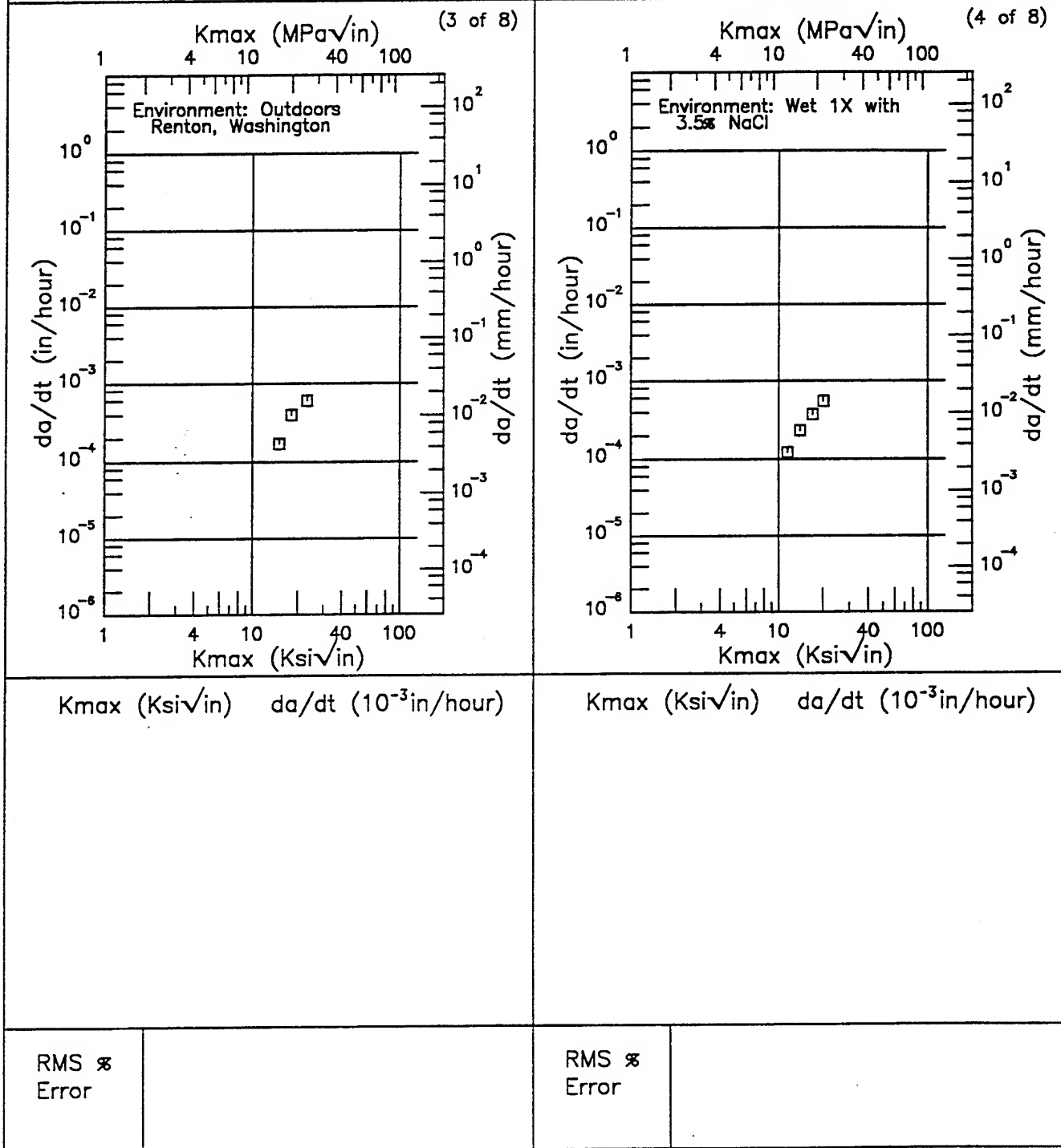


Figure 8.9.3.2.4 (Continued)

7075

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 3.5 - 5 in.
 A₀:
 K_I_{ISCC}:
 Ref: 78313;84284

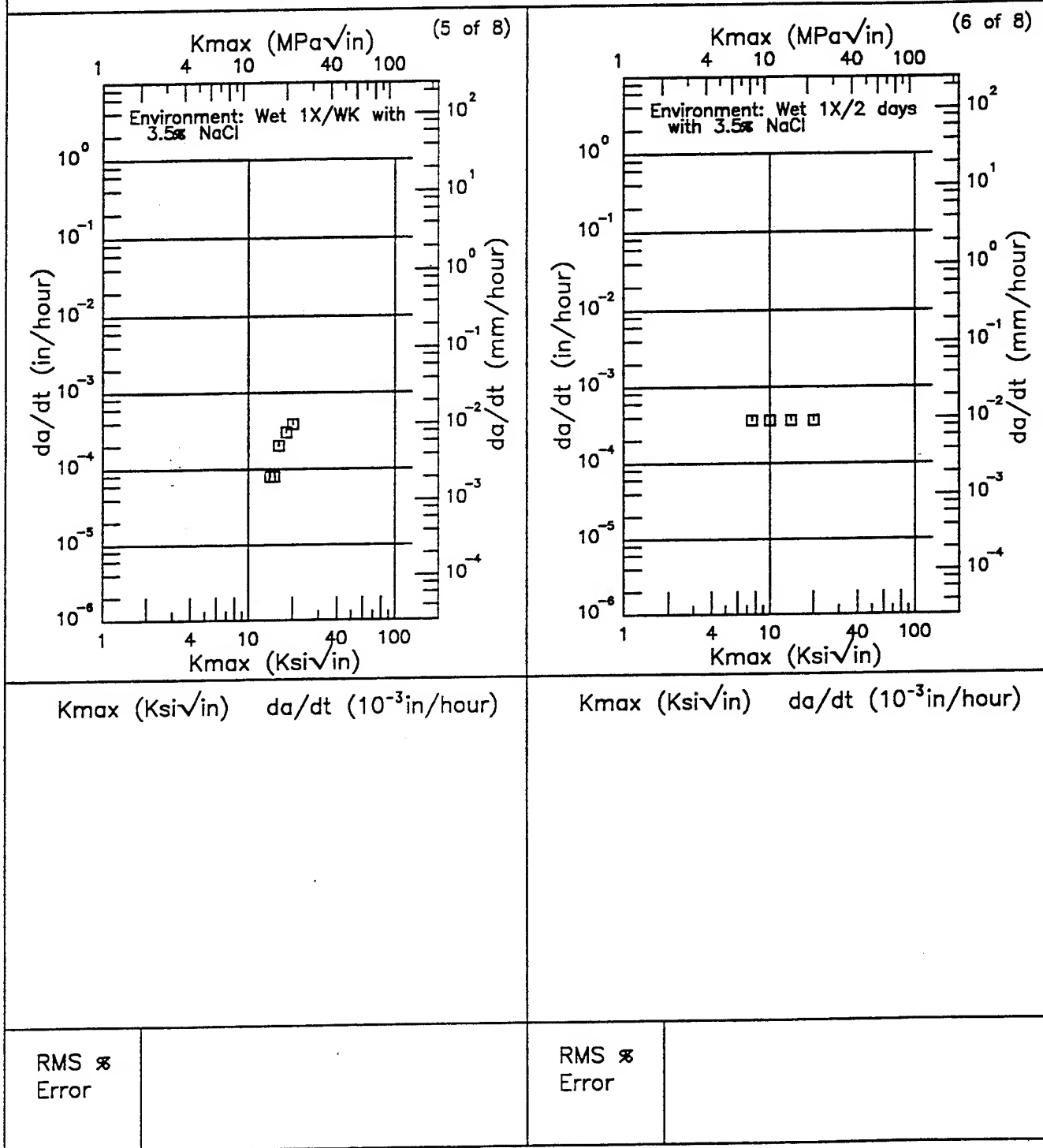
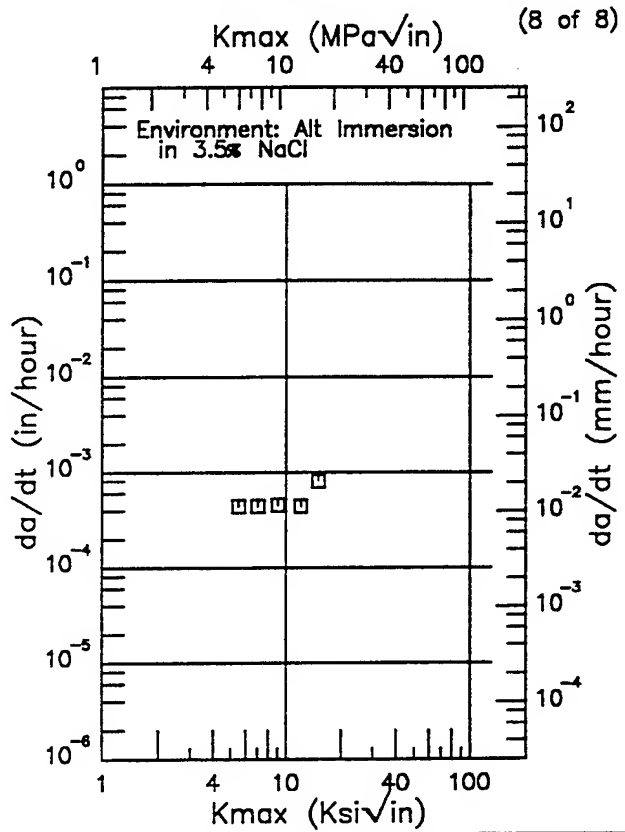
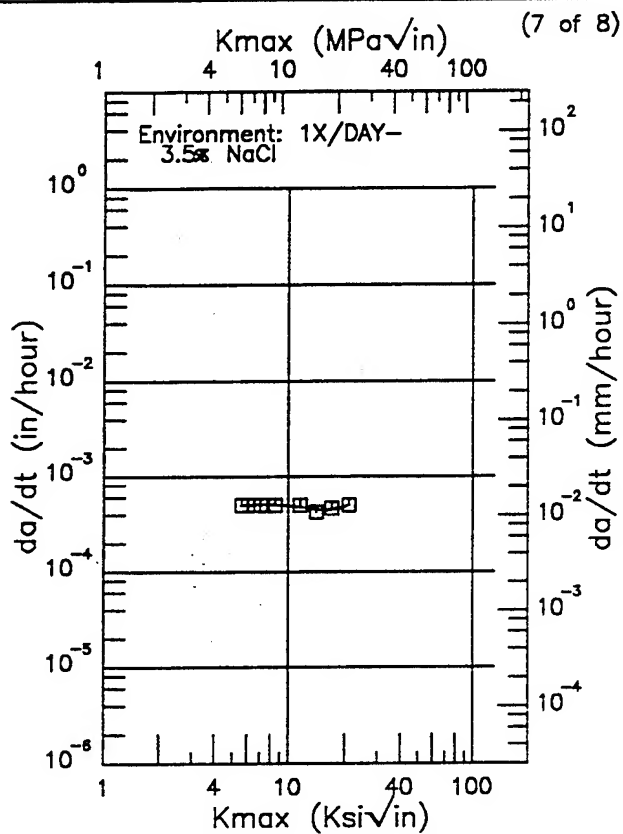


Figure 8.9.3.2.4 (Continued)

Condition/Ht: T651
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 3.5 - 5 in.
 A_0 :
 K_{Isc} :
 Ref: 78313;84284



Kmax (Ksi√in)	da/dt (10^{-3} in/hour)
5.60 (min)	0.492
6.	0.498
7.	0.506
8.	0.505
9.	0.500
10.	0.492
13.	0.463
16.	0.443
20.	0.480
21.00 (max)	0.505

Kmax (Ksi√in) da/dt (10^{-3} in/hour)

RMS %
 Error
 3.44

RMS %
 Error

Figure 8.9.3.2.4 (Concluded)

7075

Condition/Ht: T651
 Environment: 3X/DAY-3.5NACL
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A₀:
 K_I_{scc}:
 Ref: 78313

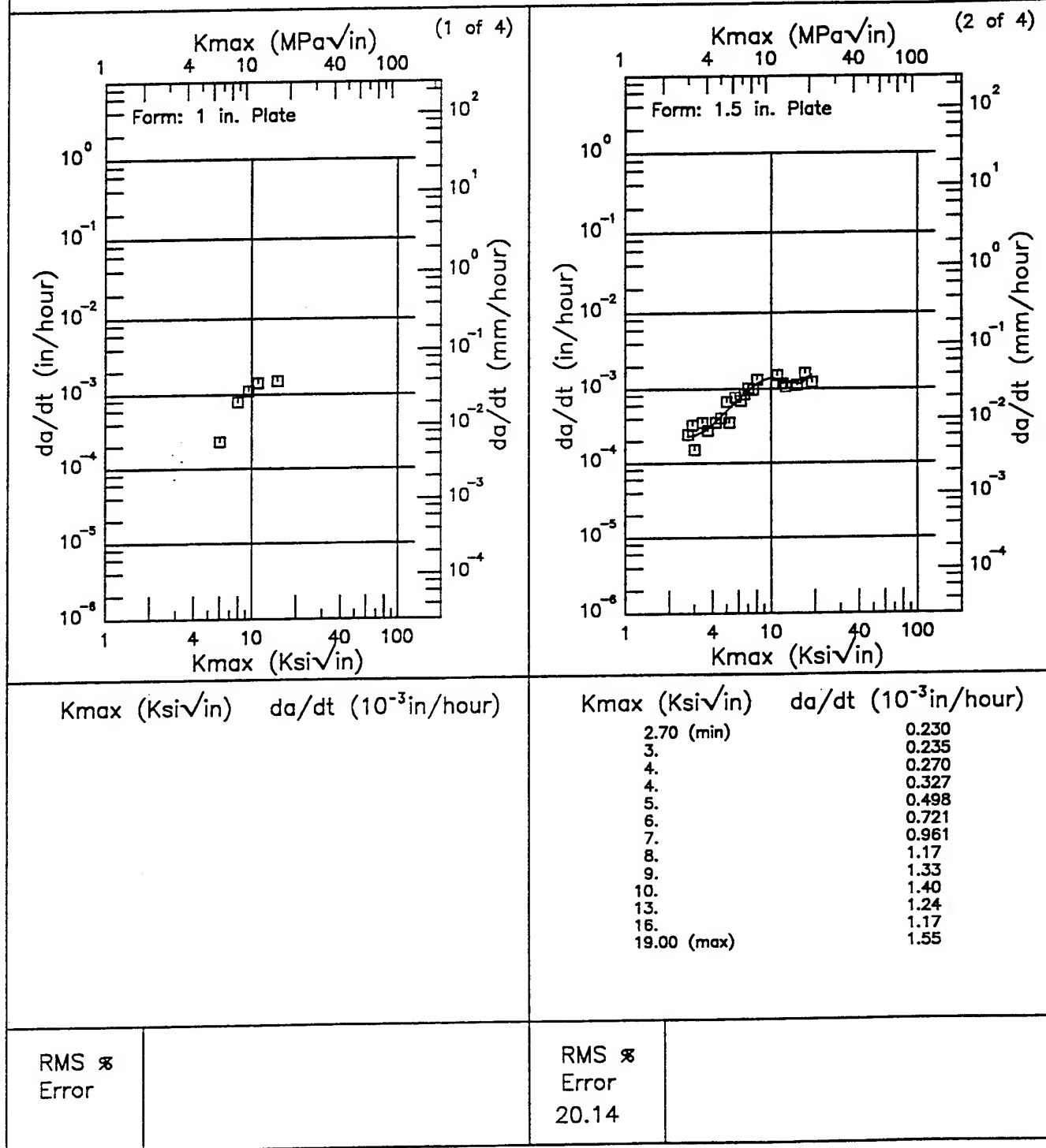


Figure 8.9.3.2.5

Condition/Ht: T651
 Environment: 3X/DAY-3.5NACL
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A₀:
 K_I_{sec}:
 Ref: 78313

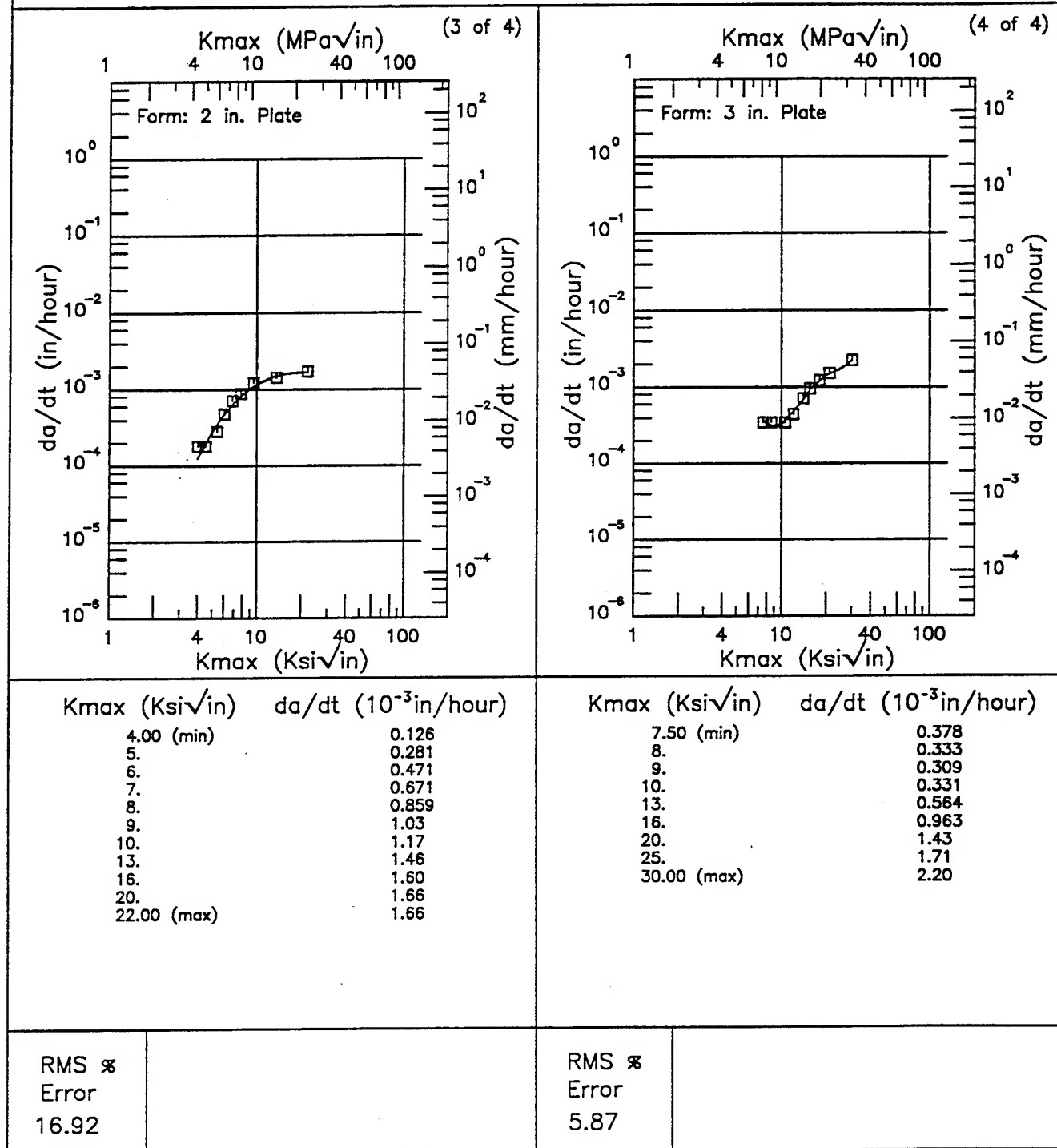


Figure 8.9.3.2.5 (Concluded)

Condition/Ht: T7351
Form: 1 - 1.5 in. Plate
Specimen Type: DCB
Orientation: S-L
Yield Strength:
Ult. Strength:

Specimen Thk: 1 in.
Specimen Width: 5 in.
Ao:
K_{Isc}:
Ref: 84284;84286

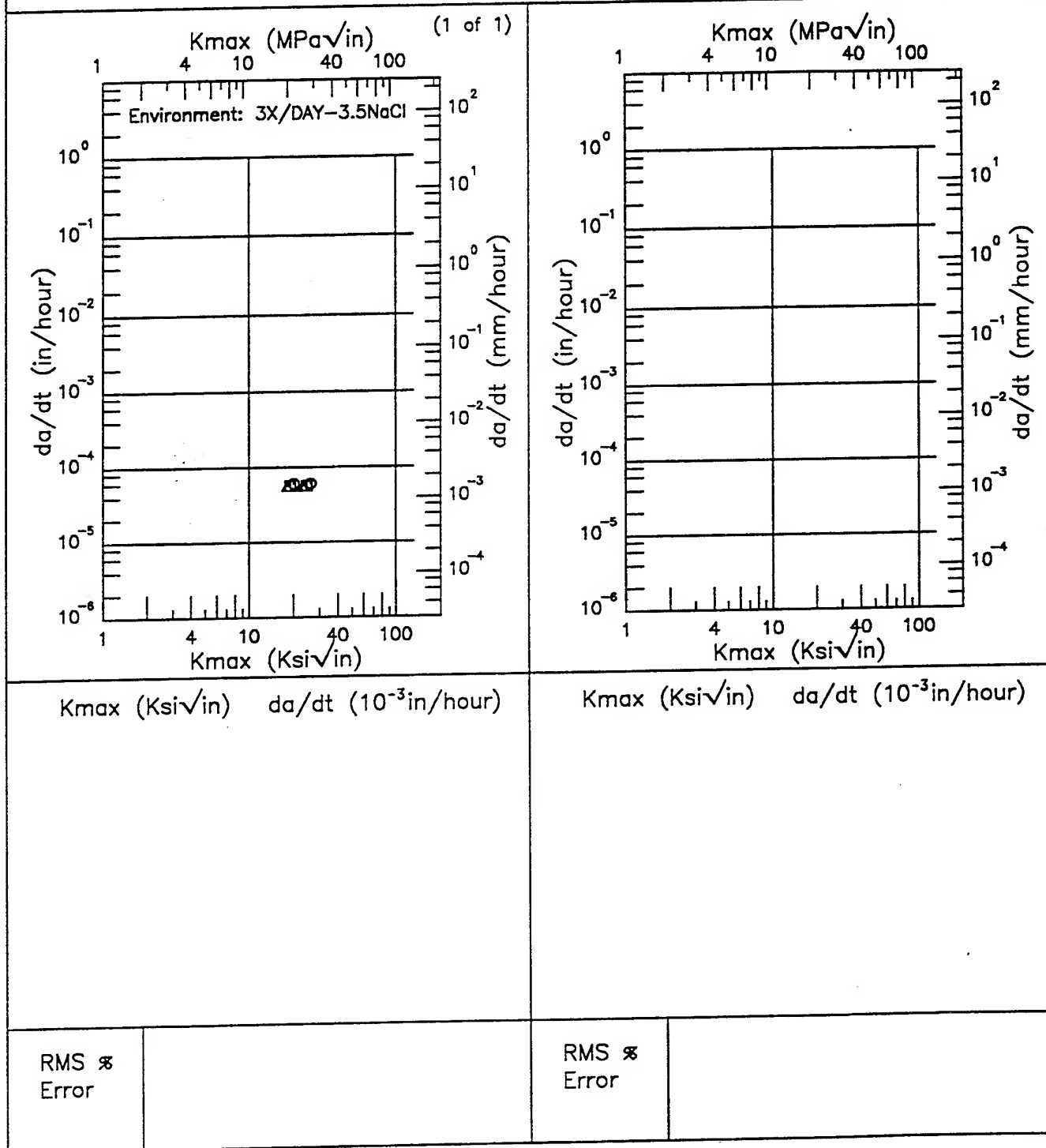


Figure 8.9.3.2.6

Condition/Ht: UNDERAGED 72HR 158F
 Form: 1 in. Plate
 Specimen Type: DCB
 Orientation: S-L
 Yield Strength:
 Ult. Strength:

Specimen Thk: 1 in.
 Specimen Width: 5 in.
 A_0 :
 K_{Isc} :
 Ref: 84286

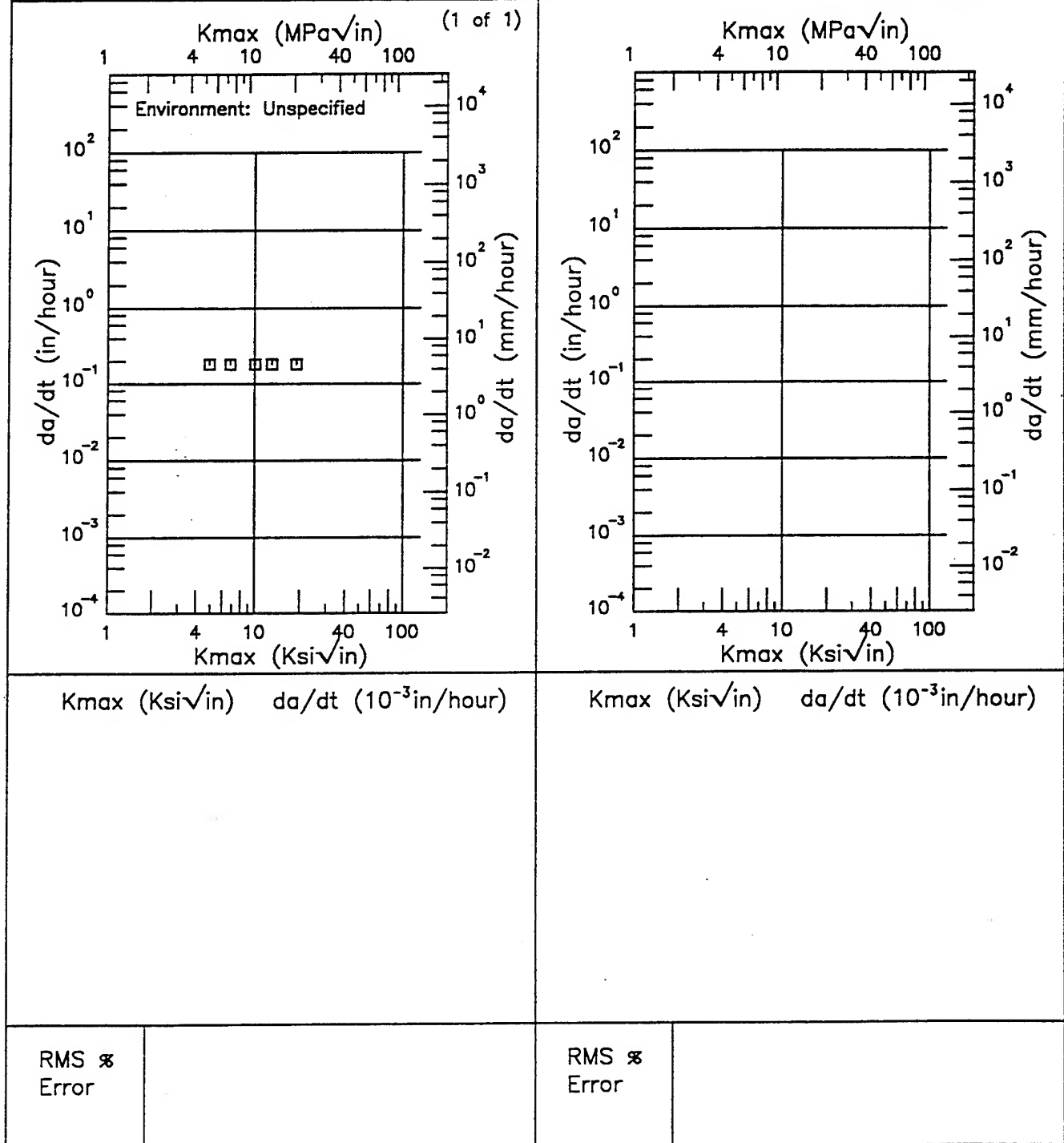


Figure 8.9.3.2.7

TABLE 8.9.3.3
K_{1sc} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K _Q (Ksi√in)	K _{Isc} (Ksi√in)	Test Time (min)	Test Date	Refer
						Design	Width (in)	Thick (in)							
T6	P	R.T.	S-L	73	3.5% NaCl	DCB	4	1	1	---	23	19	---	1968	84331
						TDCB	5	1.25	3	---	30	28.3	---	1971	84360
					Air 74% RH	TDCB	5	1.25	3	---	30	25.3	---	1971	84360
						Dist Water	TDCB	5	1.25	3	---	30	24	---	1971	84360
					T651	P	R.T.	S-L	66.7	Industrial Atm	CT	2	1	2.5	---	19.6	10	---	1973	86688
Salt-Dichromate-Acetate	CT	2	1	2.5						---	19.6	5	---	1973	86688
Seacoast Atm	CT	2	1	2.5						---	19.6	10	---	1973	86688
3.5% NaCl	DCB	4	1	1						---	21	17	---	1968	84331
Ethanol	DCB	3	0.75	---						---	---	7	---	1969	75787
	DCB	3	0.75	---	---	---	9	---	1969	75787					
T73	E	R.T.	L-R	---	Carbon Tet	---	0.75	4	---	3	---	---	---	1969	75787
						---	0.75	4	---	3	---	---	---	1969	75787
					S.T.W.	DCB	5.5	1	---	---	42	>25	64920	1976	RI006
					JP-4 Fuel	BWOL	3.083	1.244	1.25	1.36	---	>30.8	148320	1977	MA005
						BWOL	3.095	1.251	1.25	1.36	---	>31	148320	1977	MA005
T7351	P	R.T.	L-T	54.5	Sim. Sea Water	BWOL	3.083	1.25	1.25	1.36	---	>31	195840	1977	MA005
						BWOL	3.086	1.251	1.25	1.37	---	>30.8	195840	1977	MA005

(2 of 3)

TABLE 8.9.3.3 (CONTINUED)

K_{Isec} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K _Q (Ksi√in)	K _{I_{sec}} (Ksi√in)	Test Time (min)	Test Date	Refer
						Design	Width (in)	Thick (in)							
T7351 (cont'd)	P (cont'd)	R.T. (cont'd)	L-T (cont'd)	57.8	JP-4 Fuel	BWOL	3.087	1.251	1.25	1.37	---	>26.4	148320	1977	MA005
						BWOL	3.088	1.253	1.25	1.36	---	>26.5	148320	1977	MA005
					Sim. Sea Water	BWOL	3.086	1.249	1.25	1.38	---	>26.3	195840	1977	MA005
						BWOL	3.086	1.25	1.25	1.36	---	>26.2	195840	1977	MA005
			3.5% NaCl	TDCB	5	1.25	4	---	29	23.9	---	1972	84362		
				TDCB	5	1.25	4	---	29	24.8	---	1972	84362		
		S-L	---	S.T.W.	DCB	5.5	1	2	---	37	15	61680	1976	RI006	
					DCB	5.5	1	2	---	37	>13.1	76140	1976	RI006	
				3.5% NaCl	DCB	4	1	1	---	24	21	---	1968	84331	
				Industrial Atm	CT	2	1	2.5	---	21	20	---	1973	86688	
				Salt-Dichromate-Acetate	CT	2	1	2.5	---	21	19	---	1973	86688	
				Seacoast Atm	CT	2	1	2.5	---	21	20	---	1973	86688	
T73511	EB	R.T.	L-T	66	F.C.S.	DCB	5.5	1	3	---	41	>34	75240	1976	RI006
					S.C.S.	DCB	5.5	1	3	---	41	35.6	75240	1976	RI006
					DCB	5.5	1	3	---	41	>19.5	112200	1976	RI006	
			S-L		DCB	5.5	1	3	---	41	>21	59040	1976	RI006	
					DCB	5.5	1	3	---	41	>21.3	60120	1976	RI006	
					DCB	5.5	1	3	---	41	>21.3	60120	1976	RI006	

TABLE 8.9.3.3 (CONCLUDED)

K_{Isc} SUMMARY FOR ALUMINUM ALLOY 7075

Condition/ Heat Treat	Prod Form	Test Temp (°F)	Spec Or.	Yield Str (Ksi)	Envir.	Specimen			Prod Thk (in)	Crack (in)	K_Q (Ksi/in)	K_{Isc} (Ksi/in)	Test Time (min)	Test Date	Refer
						Design	Width (in)	Thick (in)							
T7352	F	R.T.	S-L	56.3	3.5% NaCl	CANT	1.4	0.7	6	---	20.1	18	---	1972	82675
T7651	P	R.T.	L-T	63	F.C.S.	DCB	5.5	1	2	---	40	>24	75240	1976	RI006
						DCB	5.5	1	2	---	40	>26.5	60180	1976	RI006
					S.C.S.	DCB	5.5	1	2	---	40	>23.5	75240	1976	RI006
						DCB	5.5	1	2	---	40	>21.5	83520	1976	RI006
			S-L	---	S.T.W.	DCB	5.5	1	2	---	40	>22	76140	1976	RI006
						DCB	5.5	1	2	---	40	12.7	76140	1976	RI006
					S.T.W.	DCB	5.5	1	2	---	40	12.7	76140	1976	RI006
						DCB	5.5	1	2	---	40	12.8	76140	1976	RI006
T76511	E	R.T.	T-L	64.5	3.5% NaCl	DCB	---	---	---	---	31.8	25.1*	---	1973	86212

* specimen thickness does not meet minimum requirements of $2.5 \left(\frac{K_{Isc}^2}{\sigma_{ys}} \right)$